

Iowa Department of Natural Resources
1900 North Grand Ave.
Gateway N Mall, Suite E17
Spencer, Iowa 51301

FAX SHEET

DELIVER TO: Poweshiek County Auditor PHONE: 1-641-623-5443

FAX NUMBER: 1-641-623-2363

FROM: Iowa DNR, Paul Petitti

NUMBER OF PAGES (including this cover sheet): 4

MESSAGE: This is a Courtesy Reminder: Iowa law requires that your board of supervisors publish a notice in the newspaper and submit the board's master matrix scoring and recommendation for the construction permit application of the confinement feeding operation, as explained in the attached letter. Please take note of the deadlines. If you have any questions, please call.

Our Fax Number is: 712/262-2901

Any problems with transmission call: 712/262-4177



STATE OF IOWA

TERRY E. BRANSTAD, GOVERNOR
KIM REYNOLDS, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
ROGER L. LANDE, DIRECTOR

April 2, 2012

Poweshiek County Board of Supervisors
c/o County Auditor
Via facsimile only

**REF: Public Notice, Matrix Evaluation and County's Recommendation Required
DNR's Facility ID No. 65294**

Dear Board of Supervisors:

The DNR has received a construction permit application for a confinement feeding operation:
Facility name: PI-301
Date received: 4/2/2012

Under Iowa law, for this application the County is required to complete the following actions:

1. Publish a public notice (see example on page following this letter) in a newspaper having a general circulation in the county no later than 04/16/2012 (within 14 days of DNR's receipt of the application) and furnish proof of publication to the DNR:

Note: A public hearing is not required, but it is optional. However, if the board chooses to have a public hearing, it is recommended to include in the notice the date, time and place for the hearing.

2. Score the applicant's Master Matrix and submit the board's recommendation regarding this application. The county must submit to the DNR all of the following:
 - A) A recommendation to approve or to disapprove the application.
 - B) Your scoring of the Matrix, including all supporting calculations.
 - C) A copy of the Matrix as approved by the board.
 - D) Proof of publication of Public Notice.

Your recommendation and Matrix score must be **received** by the DNR not later than 05/02/2012 (30 days after DNR received the application).

NOTE: If the County does not submit the Matrix score and recommendation by the deadline, the DNR will not consider any subsequent County's scoring of the Matrix or recommendation until the next time the County is eligible to adopt an evaluation resolution.

3. The board may submit comments or may forward comments from the public, which must be **received** by DNR no later than 05/02/2012. Comments received after that date due will not be considered. Comments may include but are not limited to the following:
 - a. The existence of an object or location not included in the application that benefits from a separation distance requirement as provided in section 459.202 or 459.204 or 459.310 of the Code of Iowa.
 - b. The suitability of soils and the hydrology of the site where construction of a confinement feeding operation structure is proposed.
 - c. The availability of land for the application of manure originating from the confinement feeding operation.
 - d. Whether the construction of a proposed confinement feeding operation structure will impede drainage through established tile lines, laterals, or other improvements which are constructed to facilitate the drainage of land not owned by the person applying for the construction permit.
4. The proof of publication, County's recommendation, Matrix scoring, a copy of the Matrix as approved by the board and any public comments must be **received** by IDNR no later than 05/02/2012. To ensure timely submittal, we recommend that you also **fax or scan and email** proof of publication, County's recommendation, Matrix scoring and a copy of the Matrix as approved by the board to:

Send to:

Iowa DNR
Field Office #3
1900 N Grand Ave
Gateway North, Suite E17
Spencer, IA 51301
Attn: Paul Petitti
Paul.Petitti@dnr.iowa.gov

If you have any questions about this process, please contact Paul at (712)262-4177.

Sincerely,

ENVIRONMENTAL SERVICES DIVISION



Paul Petitti

Field Services and Compliance Bureau

PUBLIC NOTICE

(This section is to be completed by the applicant)

The Poweshiek County Board of Supervisors, has received a construction permit application for a confinement feeding operation, more specifically described as follows:

Name of Applicant: Prestage Farms of Iowa, LLC

Location of the operation: Section 15 Chester Township.

Type of confinement feeding operation structure[‡] proposed: One new 2496 head deep pit finisher barn at an existing facility.

Animal Unit Capacity Of The Operation after Expansion: 1996.8 animal units.(4992 head swine finishers)

(This section is to be completed by the county)

Examination: The application is on file at the County _____ Office and is available for public inspection during the following days:

_____ and hours: _____ am to _____ pm.

Comments: Written comments may be filed at the County _____ Office, until the following deadline: _____.

[‡] A confinement feeding operation structure = a confinement building with a below the floor concrete pit; confinement building with an earthen basin or anaerobic lagoon; aboveground steel tank, etc. (see definition in footnote 1, page 1 of this application form).

Petitti, Paul [DNR]

From: Clark, Randy [DNR]
Sent: Tuesday, April 03, 2012 7:55 AM
To: Petitti, Paul [DNR]
Subject: RE: Prestage Farms

Paul,

There are no pending enforcement actions regarding these persons. Thanks!

Randy Clark
Attorney II
Iowa DNR Legal Services
Office: 515/281-8891
Fax : 515/281-7147
Email: Randy.Clark @dnr.iowa.gov

From: Petitti, Paul [DNR]
Sent: Monday, April 02, 2012 9:56 AM
To: Clark, Randy [DNR]
Subject: Prestage Farms

Hi Randy, any pending enforcement actions against Prestage Farms of Iowa, LLC from Ames or a Ryan Pudenz(address unknown, saw his name as signing agent for Prestage)

thanks

Paul Petitti, P.E.
Environmental Engineer
Field Office No.3, Spencer
1-712-262-4177



Iowa Department of Natural Resources

Construction Permit Application Form Confinement Feeding Operations

INSTRUCTIONS:

Prior to constructing, installing, modifying or expanding a confinement feeding operation structure¹, answer questions 1-8 on Item 3, Section A (page 2), to determine if a construction permit is required. To calculate the animal unit capacity (AUC) of the operation, complete Table 1 (page 4.) If a construction permit is required, complete the rest of the form, have the owner(s) sign it on pages 5 and 6. Mail to the DNR (see address on page 5) this application form, documents and fees requested in Checklist No. 1 or 2 (pages 10-16). See item 5 (page 5), to determine which checklist to use.

If a construction permit is not needed, some pre-construction requirements may still apply prior to the construction of a formed manure storage structure². See page 5 for additional DNR contact information.

THIS APPLICATION IS FOR:

1. ☐ A new confinement feeding operation
2. ☒ An existing confinement feeding operation (answer all of the following questions):
 - a. Facility ID No. (5 digit number): 65294
 - b. Date when the operation was first constructed: 2007
 - c. Date when the last construction, expansion or modification was completed: 2007.
(Not needed if the confinement operation has previously received a construction permit from DNR.)
 - d. Is this also an ownership change? ☐ Yes. ☒ No.

RECEIVED
MAR 30 2012
IOWA DNR
FIELD OFFICE 3

EM 1 – LOCATION AND CONTACT INFORMATION (See page 17 for instructions and an example):

A) Name of operation: PI-301

Location:	<u>SW</u>	<u>SE</u>	<u>15</u>	<u>81 16</u>	<u>Chester</u>	<u>Poweshiek</u>
	(1/4 1/4)	(1/4)	(Section)	(Tier & Range)	(Name of Township)	(County)

B) Owner information:

Name: Prestage Farms of Iowa, LLC Title: _____
 Address: 1421 S Bell Ave Ames, IA 50010
 Telephone: 515-233-1813 Fax: _____ e-mail: _____

C) Person to contact with questions about this application (if different than owner):

Name: Brian Ritland Title: _____
 Address: 620 Country Club Rd Iowa Falls, IA 50126
 Telephone: 641-648-7300 Fax: 641-648-7310 e-mail: britland@pinnacleiowa.com

- ☒ Enclose aerial photo or engineering drawing showing the proposed location of the confinement feeding operation structure¹ and all applicable separation distances, as requested in Attachment 1 (pages 11 or 14). See example of aerial photo on pages 18 to 19, at the end of this form.
- ☐ I manage or am the majority owner of another confinement feeding operation located within 2,500 feet of the proposed site. Please contact the DNR-AFO Program staff at (515) 281-8941 to verify site adjacency requirements.

¹ Confinement feeding operation structure = animal feeding operation structure (confinement building, manure storage structure or egg washwater storage structure) that is part of a confinement feeding operation. Manure storage structures include formed and unformed manure storage structures.

² Formed manure storage structure = covered or uncovered concrete or steel tanks, and concrete pits below the building.

ITEM 2 – SITING INFORMATION:

- A) Karst Determination: Go to www.iowaDNR.com, select the link to 'Mapping (GIS Interactive)', then check the AFO Siting Atlas. If the site is not located in karst or potential karst, print and enclose the map with the name and location of the site clearly marked. If the site is in karst or potential karst, if you cannot access the map, or if you have questions about this issue, contact a DNR geologist at (515) 242-6848. Check one of the following:
- ☒ The site is not in karst or potential karst. Include documentation requested in checklist 1 or 2 (pages 10 or 13).
 - ☐ The DNR geologist has verified that the site is in karst. The upgraded concrete standards of 567 IAC 65.15(14)"c" must be used.
- B) Alluvial Soils Determination: Go to www.iowaDNR.com, select the link to 'Mapping (GIS Interactive)', then check the AFO Siting Atlas. If the site is not in potential alluvial soils, print and enclose the map with the name and location of the site clearly marked. If the site is in potential alluvial soils, if you cannot access the map, or if you have questions about this issue, contact a DNR geologist at (515) 242-6848. Check one of the following:
- ☒ The site is not in alluvial soils. Include documentation requested in checklist 1 or 2 (pages 10 or 13).
 - ☐ The DNR geologist has verified that the site is in alluvial soils. Check one of the following:
 - ☐ Not in 100-year floodplain or does not require a floodplain permit. Include correspondence from the DNR.
 - ☐ Requires floodplain permit. Include Floodplain Permit.

ITEM 3 – OPERATION INFORMATION:

- A) A construction permit is required prior to any of the following:
1. ☐ Constructing or modifying any unformed manure storage structure³, or constructing or modifying a confinement building that uses an unformed manure storage structure³.
 2. ☒ Constructing, installing or modifying a confinement building or a formed manure storage structure² at a confinement feeding operation if, after construction, installation or expansion, the AUC of the operation is 1,000 animal units (AU) or more. This also applies to confinement feeding operations that store manure exclusively in a dry form.
 3. ☐ Initiating a change that would result in an increase in the volume of manure or a modification in the manner in which manure is stored in any unformed manure storage structure³, even if no construction or physical alteration is necessary. Increases in the volume of manure due to an increase in animal capacity, animal weight capacity or AUC up to the limits specified in a previously issued construction permit do not require a new construction permit.
 4. ☐ Initiating a change, even if no construction or physical alteration is necessary, that would result in an increase in the volume of manure or a modification in the manner in which manure is stored in a formed manure storage structure² if, after the change, the AUC of the operation is 1,000 AU or more. Increases in the volume of manure due to an increase in animal capacity, animal weight capacity or AUC up to the limits specified in a previously issued construction permit do not require a new construction permit.
 5. ☐ Constructing or modifying any egg washwater storage structure or a confinement building at a confinement feeding operation that includes an egg washwater storage structure.
 6. ☐ Initiating a change that would result in an increase in the volume of egg washwater or a modification in the manner in which egg washwater is stored, even if no construction or physical alteration is necessary. Increases in the volume of egg washwater due to an increase in animal capacity, animal weight capacity or AUC up to the limits specified in a previously issued construction permit do not require a new construction permit.
 7. ☐ Repopulating a confinement feeding operation if it was closed for 24 months or more and if any of the following apply:
 1. ☐ The confinement feeding operation uses an unformed manure storage structure³ or egg washwater storage structure;
 2. ☐ The confinement feeding operation includes only confinement buildings and formed manure storage structures² and has an AUC of 1,000 AU or more.
 8. ☐ Installing a permanent manure transfer piping system, unless the department determines that a construction permit is not required.

³ Unformed manure storage structure = covered or uncovered anaerobic lagoon, earthen manure storage basin, aerobic earthen structure.

B) In your own words, describe in detail, the proposed construction, expansion, installation, modification or repair being proposed in this project. Attach additional pages if necessary:

THIS IS AN EXISTING 1 BLDG SITE + WE WILL BE ADDING 1 BLDG
BRINGING THE TOTAL HEAD OF PIGS TO 4992

C) **Master Matrix** (must check one). If any of boxes 1 to 3 are checked, the operation is required to be evaluated with the master matrix if the county, where the confinement feeding operation structure¹ is or would be located, has adopted a 'Construction Evaluation Resolution' (CER). Select the one that best describes your confinement feeding operation:

1. ☐ A new confinement feeding operation proposed in a county that has adopted a CER.
2. ☒ An existing operation constructed on or after April 1, 2002, in a county that has adopted a CER.
3. ☐ An existing operation constructed prior to April 1, 2002, with a current or proposed AUC of 1,667 AU or more, in a county that has adopted a CER.
4. ☐ None of the above. Therefore, the master matrix evaluation is not required.

D) **Qualified Operation** (must check one). If any of boxes 1 to 4 are checked, the operation is also a 'qualified operation'. A qualified operation is required to use a manure storage structure that employs bacterial action which is maintained by the utilization of air or oxygen, and which shall include aeration equipment. However, this requirement does not apply if box 5 is checked. Select the one that best describes your confinement feeding operation:

1. ☐ A swine farrowing and gestating operation with an AUC of 2,500 AU or more.
2. ☐ A swine farrow-to-finish operation with an AUC of 5,400 AU or more.
3. ☐ A cattle confinement feeding operation (including dairies) with an AUC of 8,500 AU or more.
4. ☐ Other confinement feeding operations with an AUC of 5,333 AU or more.
5. ☒ This is not a qualified operation because:
 - a. ☒ It is below the limits shown on boxes 1 to 4.
 - b. ☐ It includes a confinement feeding operation structure¹ constructed prior to May 31, 1995.
 - c. ☐ It handles manure exclusively on a dry form.

ITEM 4 – ANIMAL UNIT CAPACITY (AUC) and, if applicable, ANIMAL WEIGHT CAPACITY (AWC):

A) Calculating AUC – Required for all operations

For each animal species, multiply the maximum number of animals that you would ever confine at one time by the appropriate factor, then add all AU together on Table 1 (page 4). Use the maximum market weight for the appropriate animal species to select the AU factor.

You must complete all applicable columns in Table 1. Use column a) to calculate the existing AUC, before permit for existing operations only. Use column b) to calculate the 'Total proposed AUC' (after a permit is issued) including new operations. The number obtained in column b) is the AUC of the operation and must be used to determine permit requirements. Use column c) to calculate the 'New AU' to be added to an existing operation. To calculate the indemnity fee (see page 7), also use column c), however, if the "Existing AUC" (column a) is 500 AU or less, enter the "Total proposed AUC" (column b) in the "New AU" (column c).

In calculating the AUC of a confinement feeding operation, you must include the AUC of all confinement buildings which are part of the confinement feeding operation, unless a confinement building has been abandoned. A confinement feeding operation structure¹ is abandoned if the confinement feeding operation structure¹ has been razed, removed from the site of a confinement feeding operation, filled in with earth, or converted to uses other than a confinement feeding operation structure¹ so that it cannot be used as a confinement feeding operation structure¹ without significant reconstruction. Therefore, in Table 1, enter the animal unit capacity of all the confinement buildings, including those that are from an adjacent operation located within 2,500 feet. For more information, contact the AFO Program at (515) 281-8941.

Table 1. Animal Unit Capacity (AUC):

(No. HEAD) x (FACTOR) = AUC

Animal Species	a) Existing AUC (Before permit)			b) Total Proposed AUC (After permit)		
	(No. Head)	x (Factor)	= AUC	(No. Head)	x (Factor)	= AUC
Slaughter or feeder cattle		1.0			1.0	
Immature dairy cattle		1.0			1.0	
Mature dairy cattle		1.4			1.4	
Gestating sows		0.4			0.4	
Farrowing sows & litter		0.4			0.4	
Boars		0.4			0.4	
Gilts		0.4			0.4	
Finished (Market) hogs	2496	0.4	998.4	4992	0.4	1996.8
Nursery pigs 15 lbs to 55 lbs		0.1			0.1	
Sheep and lambs		0.1			0.1	
Horses		2.0			2.0	
Turkeys 7lbs or more		0.018			0.018	
Turkeys less than 7 lbs		0.0085			0.0085	
Broiler/Layer chickens 3 lbs or more		0.01			0.01	
Broiler/Layer chickens less than 3 lbs		0.0025			0.0025	
TOTALS:	a) Existing AUC:		998.4	b) Total proposed AUC:		1996.8

Note: If the "Existing AUC" (column a) is 500 AU or less, enter the "Total proposed AUC" (column b) in the "New AU" (column c)

c) New AU = b) - a):

998.4

(This is the AUC of the operation)

B) Calculating AWC - Only for operations first constructed prior to March 1, 2003

The AWC is needed for an operation that was first constructed prior to March 1, 2003, to determine some of the minimum separation distance requirements for construction or expansion.

The AWC is the product of multiplying the maximum number of animals that you would ever confine at any one time by air average weight (lbs) during the production cycle. Then add the AWC if more than one animal species is present (examples on how to determine the AWC are provided in 567 IAC 65.1(455B).)

If the operation was first constructed prior to March 1, 2003, you must complete all applicable columns in Table 2:

Table 2. Animal Weight Capacity (AWC):

(No. head) * (Avg. weight, lbs) = AWC, lbs

Animal Species	a) Existing AWC (Before Permit)		b) Proposed AWC (After permit)	
	(No. head)	x avg weight = AWC	(No. head)	x avg weight = AWC
Slaughter or feeder cattle				
Immature dairy cattle				
Mature dairy cattle				
Gestating sows				
Farrowing sows & litter				
Boars				
Gilts				
Finished (Market) hogs				
Nursery pigs 15 lbs to 55 lbs				
Sheep and lambs				
Horses				
Turkeys 7lbs or more				
Turkeys less than 7 lbs				
Broiler/Layer chickens 3 lbs or more				
Broiler/Layer chickens less than 3 lbs				

c) New AWC = b) - a):

TOTALS: a) Existing AWC:

b) Total proposed AWC:

(This is the AWC of the operation)

ITEM 5 – SUBMITTAL REQUIREMENTS: Checklists No. 1 or 2 (pages 10-16) describe the submittal requirements, which are based on the type of confinement feeding operation structure¹ and AUC proposed. To determine which checklist to use, choose the option that best describes your confinement feeding operation:

- ☒ **Formed manure storage structures²:** The proposed confinement feeding operation structure¹ will be or will use a formed manure storage structure². Check one of the following boxes:
1. ☐ A swine farrowing and gestating operation with an AUC of 1,250 AU or more. Use submittal checklist No. 2 (page 13.)
 2. ☐ A swine farrow-to-finish operation with an AUC of 2,750 AU or more. Use submittal checklist No. 2 (page 13.)
 3. ☐ A cattle confinement feeding operation (including dairies) with an AUC of 4,000 AU or more. Use submittal checklist No. 2 (page 13.)
 4. ☐ Other confinement feeding operations with an AUC of 3,000 AU or more. Use submittal checklist No. 2 (page 13.)
 5. ☒ None of the above. Use Submittal Checklist No. 1 (page 10.)

If any of boxes 1 to 4 are checked, the operation meets the threshold requirements for an engineer⁴ and a Professional Engineer (PE), licensed in Iowa, is required. For these cases, use Submittal Checklist No. 2 (pages 13-15.)

If you checked box 5, your operation is below threshold requirements for an engineer⁴ and a Professional Engineer (PE) is not required. Use Submittal Checklist No. 1 (pages 10-12).

- B) ☐ **Unformed manure storage structure³:** The proposed confinement feeding operation structure¹ will be or will use an unformed manure storage structure³ or an egg washwater storage structure. A Professional Engineer (PE), licensed in Iowa must design and sign the engineering documents for any size of operation. Use Submittal Checklist No. 2 (pages 13-15) and Addendum "A" (page 16).

ITEM 6 – SIGNATURE:

I hereby certify that the information contained in this application is complete and accurate.

Signature of Owner(s): Prisage Farms of IA, LLC Date: 3/27/12
[Signature]

MAILING INSTRUCTIONS:

To expedite the application process, follow the submittal requirements explained in Checklist No. 1 or 2 (pages 10 to 16), whichever applies. Page 1 of this form should be the first page of the package. Mail all documents and fees to:

Iowa DNR
AFO Program
502 East 9th St.
Des Moines, IA 50319-0034

(Note: Incomplete applications will be returned to the sender. Application documents submitted to the Field Office will delay the application process.)

Questions

Questions about construction permit requirements or regarding this form should be directed to an engineer of the animal feeding operations (AFO) Program at (515) 281-8941 or go to <http://www.iowadnr.com> (select the link to "Animal Feeding Operations"). To contact the appropriate DNR Field Office, go to <http://www.iowadnr.com/fo/index.html>.

⁴ Threshold requirements for an engineer apply to the construction of a formed manure storage structure². Operations that meet or exceed the threshold requirements for an engineer, are required to submit engineering documents signed by a professional engineer licensed in the state of Iowa. Please refer to Checklist No. 2 (pages 13 to 15.)
Revised October 19, 2009

ITEM 7

Interested Parties Form Confinement Feeding Operation

Interest means ownership of a confinement feeding operation as a sole proprietor or a 10 percent or more ownership interest held by a person in a confinement feeding operation as a joint tenant, tenant in common, shareholder, partner, member, beneficiary or other equity interest holder. Ownership interest is an interest when it is held either directly or indirectly through a spouse or dependent child, or both.

INSTRUCTIONS:

Please list all persons (including corporations, partnerships, etc.) who have an interest in any part of the confinement feeding operation covered by this permit application.

Full Name	Address	City/State	Zip
Prestage Farms of Iowa, LLC	1421 S Bell Ave	Ames, IA	50010

For each name above, please list below all other confinement feeding operations in Iowa in which that person has an interest. Check box "None" below, if there are no other confinement feeding operations in Iowa in which the above listed person has an interest.

Operation Name	Location (1/4 1/4, 1/4, Section, Tier, Range, Township, County)	City
<input type="checkbox"/> None: There are no other confinements in Iowa in which the above listed person(s) has or have an interest.		

SEE ATTACHED

I hereby certify that the information provided on this form is complete and accurate.

Signature of Owner(s):

Prestage Farms of IA, LLC
H. R. S., GM

Date:

3/27/12

Site Name	DNR Number	Location (1/4, 1/4 Sec, 1/4 Sec, Sec, Twp, Range, County)	City
PI 201	60516	SE 1/4 of the SE 1/4 of Sec 5 T 88N R 22W Hardin - Co.	Alden
PI 202	60178	NW 1/4 of the NW 1/4 Sec 25 T 93 R 25 Wright - Co.	Belmond
PI 203	60543	NW 1/4 of the NE 1/4 of Sec 15 T 91N R 23W Wright - Co.	Dows
PI 204	60675	SW 1/4 of the NE 1/4 of Sec 34 T 91N R 24W Wright - Co.	Clarion
PI 205	60676	NW 1/4 of the NE 1/4 of Sec 26 T 88N R 23W Hamilton - Co.	Williams
PI 206	60180	SW 1/4 of the SW 1/4 of Sec 23 T 88N R 23W Hamilton - Co.	Williams
PI 207	60181	SW 1/4 of the SE 1/4 of Sec 1 T 87N R 23W Hamilton - Co.	Radcliffe
PI 208	59993	SE 1/4 of the NE 1/4 Sec 12 T 87N R 23W Hamilton - Co.	Radcliffe
PI 209	59790	NE 1/4 of the SE 1/4 of Sec 27 T 94N R 27W Kossuth - Co.	LuVerne
PI 210	59797	NW 1/4 of the NW 1/4 of Sec 8 T 90 R 26 Wright - Co.	Eagle Grove
PI 211	60673	NE 1/4 of the NW 1/4 of Sec 8 T 90N R 26W Wright - Co.	Eagle Grove
PI 212	57825	NE 1/4 of the NW 1/4 of Sec 18 T 93 R 26 Wright - Co.	Renwick
PI 213	59792	NW 1/4 of the NW 1/4 of Sec 16 T 86N R 23W Hamilton - Co.	Story City
PI 214	59795	NW 1/4 of the NE 1/4 of Sec 16 T 86N R 23W Hamilton - Co.	Story City
PI 215	62777	NE 1/4 of the NE 1/4 of Sec 16 T 86N R 23W Hamilton - Co.	Story City
PI 216	59793	SE 1/4 of the NE 1/4 of Sec 16 T 86N R 23W Hamilton - Co.	Elsworth
PI 217	62576	SW 1/4 of the SW 1/4 of Sec 17 T 92 R 26 Wright - Co.	Goldfield
PI 218	62577	NE 1/4 of the SE 1/4 of Sec 18 T 92 R 26 Wright - Co.	Goldfield
PI 219	60161	SW 1/4 of the SW 1/4 of Sec 3 T 93 R 24 Wright - Co	Belmond
PI 220	60159	NW 1/4 of the SW 1/4 of Sec 4 T 93N R 24W Wright - Co.	Belmond
PI 221	60866	NW 1/4 of the NW 1/4 of Sec 5 T 93 R 24 Wright - Co.	Kanawha
PI 222	64282	NW 1/4 of the NE 1/4 of Sec 17 T 88N R 22W Hardin - Co.	Alden
PI 223	64707	NW 1/4 of the Sw 1/4 of Sec 22 T 89N R 19W Hardin - Co.	Ackley
PI 224	64488	SE 1/4 of the SW 1/4 of Sec 13 T 90N R 20W Franklin - Co.	Ackley
PI 225	64568	NE 1/4 of the SE 1/4 of Sec 19 T 93N R 24W Wright - Co.	Belmond
PI 226	65492	SW 1/4 of the NW 1/4 of Sec 24 T 77N R 15W Mahaska - Co.	New Sharon
PI 227	65091	NW 1/4 of the NE 1/4 of Sec 36 T 87 R 22 Hardin - Co.	Hubbard
PI 228	64660	NW 1/4 of the NE 1/4 of Sec 25 T 93 R 25 Wright - Co.	Belmond
PI 229	64827	NW 1/4 of the NW 1/4 of Sec 21 T 90N R 32W Pocahontas - Co.	Palmer
PI 230	64988	NE 1/4 of the SE 1/4 of Sec 11 T 94N R 28W Kossuth - Co.	LuVerne
PI 231	64645	NE 1/4 of the NW 1/4 of Sec 34 T 95 R 28 Kossuth - Co.	LuVerne
PI 232	64933	NW 1/4 of the SW 1/4 of Sec 18 T 84N R 30W Greene - Co.	Jefferson

PI 233	64845	NE 1/4 of the SE 1/4 of Sec 24 T 83N R 33W Carroll - Co.	Scranton
PI 235	65195	SW 1/4 of the NW 1/4 of Sec 5 T 85N R 36 W Carroll - Co.	Breda
PI 236	64813	SW 1/4 of the SE 1/4 of Sec 35 T 92N R 24W Wright - Co.	Clarion
PI 237	64974	SW 1/4 of the SE 1/4 of Sec 2 T 87N R 32W Calhoun - Co.	Rockwell City
PI 238	64953	SW 1/4 of the SE 1/4 of Sec 36 T 76N R 34W Cass - Co.	Massena
PI 239	65498	SE 1/4 of the NW 1/4 of Sec 19 T 78W R 16W Poweshiek - Co.	Lynnvile
PI 240	65226	NW 1/4 of the NW 1/4 of Sec 21 T 82 R 32 Greene - Co.	Coon Rapids
PI 241	65523	NE 1/4 of the SE 1/4 of Sec 20 T 76N R 12W Keokuk - Co.	Sigourney
PI 242	65128	SE 1/4 of the NE 1/4 of Sec 33 T 79N R 14W Poweshiek - Co.	Montezuma
PI 243	65502	SW 1/4 of the NW 1/4 of Sec 23 T 78N R 15W Poweshiek - Co.	Montezuma
PI 244	65293	SW 1/4 of the SW 1/4 of Sec 14 T 81N R 16W Hamilton - Co.	Grinnell
PI 246	64893	NW 1/4 of the SW 1/4 of Sec 20 T 90N R 33W Pocahontas - Co.	Fonda
PI 247	65561	NW 1/4 of the NE 1/4 of Sec 18 T 81N R 1W Cedar - Co.	Lowden
PI 248	64635	SW 1/4 of the SE 1/4 of Sec 11 T 93N R 31W Pocahontas - Co.	Rolfe
PI 249	64713	SW 1/4 of the NW 1/4 of Sec 21 T 93N R 31W Pocahontas - Co.	Rolfe
PI 250	64790	SW 1/4 of the SW 1/4 of Sec 30 T 88N R 33W Calhoun - Co.	Rockwell City
PI 251	65720	NW 1/4 of the NW 1/4 of Sec 21 T 93N R 32W Pocahontas - Co.	Plover
PI 252	65254	SW 1/4 of the SW 1/4 of Sec 4 T 87N R 35W Sac - Co.	Sac City
PI 253	65429	NE 1/4 of the NW 1/4 of Sec 20 T 92 R 33 Pocahontas - Co.	Pocahontas
PI 254	65159	NW 1/4 of the NW 1/4 of Sec 32 T 79N R 15W Carroll - Co.	Montezuma
PI 255	65188	NE 1/4 of the SE 1/4 of Sec 36 T 87N R 6W Sac - Co.	Lake view
PI 256	65577	SE 1/4 of the NE 1/4 of Sec 2 T 88N R 34W Calhoun - Co.	Jolley
PI 257	65156	NE 1/4 of the NW 1/4 of Sec 6 T 91 R 33 Pocahontas - Co.	Pocahontas
PI 258	65208	NE 1/4 of the NW 1/4 of Sec 19 T 91 R 33 Pocahontas - Co.	Pocahontas
PI 259	65295	SW 1/4 of the SE 1/4 of Sec 8 T 76N R 14W Mahaska - Co.	Rose Hill
PI 260	65942	NW 1/4 of the NW 1/4 of Sec 19 T 76N R 33W Adair - Co.	Anita
PI 261	65575	SE 1/4 of the SE 1/4 of Sec 29 T 82N R 32W Greene - Co.	Coon Rapids
PI 262	65471	SW 1/4 of the SW 1/4 of Sec 27 T 93N R 17W Butler - Co.	Greene
PI 263	65472	NW 1/4 of the NE 1/4 of Sec 28 T 93N R 17W Butler - Co.	Greene
PI 264	65489	NW 1/4 of the NW 1/4 of Sec 32 T 93N R 17W Butler - Co.	Greene
PI 265	65544	SE 1/4 of the Sw 1/4 of Sec 19 T 76N R 33W Adair - Co.	Anita
PI 266	65344	SE 1/4 of the SE 1/4 of Sec 31 T 90N R 24W Wright - Co.	Woolstock
PI 267	65563	SE 1/4 of the NW 1/4 of Sec 32 T 77N R 12W Keokuk - Co.	Keswick
PI 268	65365	NW 1/4 of the NW 1/4 of Sec 32 T 95N R 24W Hancock - Co.	Garner
PI 269	65753	SE 1/4 of the SE 1/4 of Sec 1 T 74N R 33W Adair - Co.	Fontanelle
PI 270	65564	NE 1/4 of the NW 1/4 of Sec 35 T 76N R 13W Keokuk - Co.	What Cheer
PI 271	65519	SW 1/4 of the SW 1/4 of Sec 30 T 82N R 34W Carroll - Co.	Dedham

PI 272	65449	NW 1/4 of the NE 1/4 of Sec 12 T 80N R 33W Guthrie - Co.	Coon Rapids
PI 273	65744	Ne 1/4 of the NE 1/4 of Sec 24 T 77N R 14W Mahaska - Co.	Barnes City
PI 274	65345	NE 1/4 of the SW 1/4 of Sec 27 T 76N R 14W Mahaska - Co.	Rose Hill
PI 275	65495	SW 1/4 of the SE 1/4 of Sec 21 T 92N R 33W Pocahontas - Co.	Pocahontas
PI 276	65713	NW 1/4 of the NE 1/4 of Sec 6 T 77N R 12W Keokuk - Co.	Keswick
PI 277	65593	NE 1/4 of the NE 1/4 of Sec 8 T 77N R 12W Keokuk - Co.	Keswick
PI 278	65299	NW 1/4 of the SW 1/4 of Sec 2 T 91N R 19W Franklin - Co.	Geneva
PI 279	65356	SW 1/4 of the NW 1/4 of Sec 28 T 77N R 15W Mahaska - Co.	New Sharon
PI 280	65450	NW 1/4 of the NE 1/4 of Sec 25 T 81N R 32W Guthrie - Co.	Bayard
PI 281	65633	SW 1/4 of the NW 1/4 of Sec 27 T 76N R 33W Adair - Co.	Fontanelle
PI 283	65413	NE 1/4 of the NE 1/4 of Sec 18 T 93N R 30 W Humboldt - Co.	Ottosen
PI 284	65429	NE 1/4 of the SE 1/4 of Sec 31 T 93N R 30W Humboldt - Co.	Bradgate
PI 285	65719	NW 1/4 of the NE 1/4 of Sec 29 T 86N R 37W Sac - Co.	Wall Lake
PI 286	65635	SW 1/4 of the SE 1/4 of Sec 28 T 76N R 33W Adair - Co.	Bridgewater
PI 287	65755	SE 1/4 of the NE 1/4 of Sec 24 T 84N R 33W Carroll - Co.	Glidden
PI 288	65702	NW 1/4 of the SW 1/4 of Sec 33 T 79N R 14W Poweshiek - Co.	Montezuma
PI 289	65576	SW 1/4 of the NW 1/4 of Sec 32 T 88N R 34W Calhoun - Co.	Lytton
PI 290	65378	NE 1/4 of the SE 1/4 of Sec 33 T 92N R 25W Buena Vista - Co.	Alber City
PI 291	65509	NW 1/4 of the NW 1/4 of Sec 25 T 88N R 24W Calhoun - Co.	Rockwell City
PI 292	65426	NE 1/4 of the NE 1/4 of Sec 9 T 98N R 32W Emmet - Co.	Ringsted
PI 293	65480	SE 1/4 of the SW 1/4 of Sec 26 T 98 R 32 Emmet - Co.	Graettinger
PI 294	65661	NE 1/4 of the NE 1/4 of Sec 19 T 89N R 23W Hamilton - Co.	Williams
PI 295	65971	NW 1/4 of the NE 1/4 of Sec 7 T 84N R 19W Marshall - Co.	Clemons
PI 296	65970	SW 1/4 of the SW 1/4 of Sec 4 T 84N R 19W Marshall - Co.	Albion
PI 297	65469	SW 1/4 of the NW 1/4 of Sec 22 T 97 R 31 Palo Alto - Co.	Fenton
PI 298	65437	NE 1/4 of the SE 1/4 of Sec 34 T 98N R 31W Emmet - Co.	Ringsted
PI 299	65630	NW 1/4 of the NE 1/4 of Sec 36 T 81N R 32W Guthrie - Co.	Bayard
PI 300	65671	NE 1/4 of the NE 1/4 of Sec 6 T 97 R 31 Palo Alto - Co.	Ringsted
PI 301	65294	SW 1/4 of the SE 1/4 of Sec 15 T 81N R 16W Poweshiek - Co.	Grinnell
PI 302	65695	NE 1/4 of the NW 1/4 of Sec 36 T 81N R 31W Guthrie - Co.	Yale
PI 303	65778	SW 1/4 of the NW 1/4 of Sec 28 T 77N R 12W Keokuk - Co.	Keswick
PI 305	65764	SE 1/4 of the SE 1/4 of Sec 9 T 76N R 11W Keokuk - Co.	Harper
PI 307	65846	NW 1/4 of the Ne 1/4 of Sec 23 T 94N R 33W Palo Alto - Co.	Mallard
PI 308	65761	SW 1/4 of the SE 1/4 of Sec 25 T 94N R 32W Palo Alto - Co.	Rolfe
PI 309	65727	SE 1/4 of the NE 1/4 of Sec 29 T 84N R 30 W Greene - Co.	Jefferson
PI 310	65804	SW 1/4 of the SE 1/4 of Sec 4 T 94N R 34W Hancock - Co.	Goodell
PI 311	66923	SE 1/4 of the NE 1/4 of Sec 25 T 81N R 16W Poweshiek - Co.	Grinnell

PI 313	66874	SW 1/4 of the NW 1/4 of Sec 16 T 94N R 27W Kossuth - Co.	LuVerne
PI 315	65913	NE 1/4 of the SE 1/4 of Sec 30 T 80N R 32W Guthrie - Co.	Guthrie
PI 318	65912	NE 1/4 of the NW 1/4 of Sec 3 T 85N R 37W Crawford - Co.	Wall Lake
PI 319	65884	SW 1/4 of the SE 1/4 of Sec 16 T 80N R 37W Shelby - Co.	Irwin
PI 320	66869	SW 1/4 of the SW 1/4 of Sec 18 T 83N R 37W Crawford - Co.	Vail
PI 321	65968	NE 1/4 of the NE 1/4 of Sec 21 T 71 R 16 Monroe - Co.	Blakesburg
PI 322	65917	NW 1/4 of the SW 1/4 of Sec 18 T 71N R 15W Wapello - Co.	Blakesburg
PI 323	66880	NE 1/4 of the NE 1/4 of Sec 31 T 86 R 34W Calhoun - Co.	Auburn
PI 326	66890	SE 1/4 of the NE 1/4 of Sec 22 T 93 R 27 Humbolt - Co.	Renwick
PI 327	65833	Ne 1/4 of the NW 1/4 of Sec 18 T 76 R 15 Mahaska - Co.	New Sharon
PI 328	65793	NW 1/4 of the NE 1/4 of Sec 20 T 90N R 32W Palo Alto - Co.	Palmer
PI 331	65831	NW 1/4 of the SW 1/4 of Sec 26 T 78N R 15W Poweshiek - Co.	Montezuma

ITEM 8

**Manure Storage Indemnity Fee Form
for Construction Permits**

Credit fees to: Prestage Farms of Iowa, LLC

Name of operation: PI-301

INSTRUCTIONS:

- 1) Use the 'Total Proposed AUC' from column b), Table 1 (page 4), to select the appropriate fee line in the table below. The 'Total Proposed AUC' is the AUC of the operation.
- 2) Select the animal specie and row number (see examples). Enter the 'New AU' from column c), Table 1 (page 4). The 'New AU' is the number of AU to be added to an existing operation or being proposed with a new operation. **Note:** If the "Existing AUC" (column a) is 500 AU or less, enter the "Total proposed AUC" (column b) in "New AU" (column c).
- 3) Multiply the 'New AU' by the appropriate 'Fee per AU'. The resulting number is the indemnity fee due.

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474-542-474A-0431

- **Example 1:** An existing swine operation is expanding from an 'Existing AUC' of 1,000 AU to a 'Total Proposed AUC' of 1,800 AU, and has previously paid an indemnity fee for the existing 1,000 AU. Calculate the indemnity fee as follows: The 'Total Proposed AUC' is between 1,000 AU and 3,000 AU; the animal specie is other than poultry; enter 800 AU in the 'New AU' column, row 4, and multiply it by \$ 0.15:
$$(800 \text{ AU}) \times (\$ 0.15 \text{ per AU}) = \$ 120.00$$
- **Example 2:** An existing poultry operation is expanding from an 'Existing AUC' of 250 AU to a 'Total Proposed AUC' of 2,000 AU and has not paid the indemnity fee for animals housed in the existing buildings. Calculate the indemnity fee as follows: The 'Total Proposed AUC' is between 1,000 AU and 3,000 AU; the animal specie is poultry and the indemnity fee has not previously been paid, enter 2,000 AU in the 'New AU' column on row 3, and multiply it by \$0.06:
$$(2,000 \text{ AU}) \times (\$ 0.06 \text{ per AU}) = \$ 120.00$$
- **Example 3:** If you are proposing a new swine confinement feeding operation with a 'Total Proposed AUC' of 3,500 AU, enter 3,500 AU in the 'New AU' column, row 6 and multiply it by \$ 0.20:
$$(3,500 \text{ AU}) \times (\$ 0.20 \text{ per AU}) = \$ 700.00$$
- **Example 4:** If you are applying for a construction permit but you are not increasing the AUC of the operation, and has previously paid the applicable indemnity for the animals housed in the existing buildings, there is no indemnity fee due (\$ 0.00). If no indemnity fee is due, do not submit this page.

Indemnity Fee Table:

Total Proposed AUC - (After permit) from column b), Table 1	Row	Animal species	New AU - from column c), Table 1	x	Fee per AU	Indemnity Fee
Less than 1,000 AU	1	Poultry		x	\$ 0.04 =	
	2	Other		x	\$ 0.10 =	
1,000 AU or more to less than 3,000 AU	3	Poultry		x	\$ 0.06 =	
	4	Other	998.4	x	\$ 0.15 =	149.76
3,000 AU or more	5	Poultry		x	\$ 0.08 =	
	6	Other		x	\$ 0.20 =	

ITEM 8 (Cont.)

**Filing Fees Form
for Construction Permits**

Credit fees to: Prestage Farms of Iowa, LLC

Name of operation: PI-301

INSTRUCTIONS:

1. If the operation is applying for a construction permit enclose a payment for the following:

☒ Construction application fee \$ 250.00.
(Note: This fee is non-refundable)

2. A manure management plan must be submitted and you must also pay the following:

☒ Manure management plan filing fee \$ 250.00
(Note: This fee is non-refundable)

3. Total filing fees: Add the fees paid in items 1 and 2 (above): \$ 500

Cashier's Use Only
473-542-473A-0431
474-542-474A-0431

SUMMARY:

- Manure Storage Indemnity Fee (see previous page) \$ 149.76
to be deposited in the Manure Storage Indemnity Fee Fund (474)

- Total filing fees (see item 3 on this page) \$ 500
to be deposited in the Animal Agriculture Compliance Fund (473)

TOTAL DUE: \$ 649.76

4. Make check payable to: Iowa Department of Natural Resources or Iowa DNR; and send it along with the construction application documents (See submittal checklist No. 1 or 2, pages 10-15.) Note: Do not send this fee to the county.

ITEM 9

COUNTY VERIFICATION RECEIPT OF DNR CONSTRUCTION PERMIT APPLICATION

This form provides proof that the County Board of Supervisors has been provided with a complete copy of the construction permit application documents (everything except the fees) for the confinement feeding operation:

Owner: Prestage Farms of Iowa, LLC Telephone: 515-233-1813

Name of operation: PI-301

Location: SW SE 15 81 16 Chester Poweshiek
(1/4 1/4) (1/4) (Section) (Tier & Range) (Name of Township) (County)

Documents being submitted to the county:

- ☒ Construction permit application form: submit items 1 to 9 (see Submittal Checklist No. 1 or 2)
- ☒ Attachment 1 - Aerial photos: Must clearly show the location of the proposed confinement feeding operation structure¹ and that all the separation distances are met, including those claimed for points in the master matrix (if applicable).
- ☒ Attachment 2 - Statement of design certification, submit any of the following (see Checklist No. 1 or 2):
 - ☐ Construction Design Statement form
 - ☒ Professional Engineer (PE) Design Certification form
 - ☐ Engineering report, construction plans and technical specifications
 - ☐ In addition, if proposing an unformed manure storage structure³ or an egg washwater storage structure submit documentation required in Addendum "A" of this construction application form.
- ☒ Attachment 3 - Manure management plan.
- ☒ Attachment 4 - Master Matrix (if required). You must include supporting documents (see Checklist No. 1 or 2)

THIS SECTION IS RESERVED FOR THE COUNTY

As soon as DNR receives a construction permit application, the DNR will fax your County Auditor a "Courtesy reminder letter" explaining what actions your County Board of Supervisors must complete and the deadlines.

Public Notice is required for all construction permit applications, including those applications not required to be evaluated with the master matrix and applications in counties not participating in the Master matrix.

Counties participating in the master matrix: the county's master matrix evaluation and county's recommendation is required for the following cases:

- A new confinement feeding operation that is applying for a construction permit
- An existing confinement feeding operation that was first constructed on or after April 1, 2002 that is applying for a construction permit.
- An existing confinement feeding operation that was first constructed prior to April 1, 2002 that is applying for a construction permit with an animal unit capacity (AUC) is 1,667 animal units (AU) or more.

I have read and acknowledge the county's duty with this construction permit application, as specified in 567 IAC 65.10(455B) and Iowa Code 459.304. On behalf of the Board of Supervisors for:

COUNTY: Gasper

NAME: Melissa Natus

TITLE: Deputy Auditor

(Member of the County Board of Supervisors or its designated official/employee)

Date: 3-28, 2012

If you do not receive the courtesy reminder letter within a reasonable time, or if you have any questions, please contact the animal feeding operations (AFO) Program at (515) 281-8941 or visit www.iowaDNR.com



For unpermitted and permitted confinement feeding operations

Professional Engineer¹ (PE) Design Certification

This form is to be used in lieu of a Construction Design Statement (CDS) for confinement feeding operations with an AUC² of more than 500 AU, not required to have a PE¹, that are constructing a formed manure storage structure³ with a site-specific design sealed by a PE¹. For more information contact the DNR (see page 2 for contact information.)

Name of operation: P301 Facility ID No. :
Location: SW SE 15 T81N-R16W Chester Poweshiek
(1/4 1/4) (1/4) (Section) (Tier & Range) (Name of Township) (County)

Describe the proposed confinement feeding operation structures: (1)101' 10"OD wide x 203' OD long x 8' deep. Pit will be below grade, covered by building and slats. Constructed of reinforced concrete.

Design Certification: Pursuant to 567 IAC 65.15(14)"a" or "b", I prepared an engineering report, plans and specifications for the operation referenced above. Design considerations shall be in conformance with the following design methods:

American Concrete Institute (ACI):	Portland Cement Association (PCA):	MidWest Plan Service (MWPS):
<input checked="" type="checkbox"/> ACI 318	<input checked="" type="checkbox"/> EB 075	<input checked="" type="checkbox"/> MWPS 36
<input checked="" type="checkbox"/> ACI 360	<input checked="" type="checkbox"/> EB 001	<input type="checkbox"/> MWPS TR9
<input checked="" type="checkbox"/> ACI 350	<input checked="" type="checkbox"/> ISO 72	

In addition, for nondry manure the following additional requirements of 567 IAC 65.15(14)"a"(1) will be met:

- ☒ 1. The floors shall be a minimum of 5 inches thick. Nondestructive methods to verify the floor slab thickness may be required by the department. The results shall indicate that at least 95 percent of the floor slab area meets the minimum required thickness. In no case shall the floor slab thickness be less than 4½ inches.
- ☒ 2. Wire mesh shall not be used as primary reinforcement for a formed manure storage structure with a depth of 4 feet or more. Fiber shall not be used as reinforcement.
- ☒ 3. Waterstops shall be installed in all areas where fresh concrete meets hardened concrete. Waterstops shall be made of plastic, rolled bentonite or similar materials approved by the department.
- ☒ 4. The vertical steel of all walls shall be extended into the footing and be bent at 90° or a separate dowel shall be installed. As an alternate to the 90° bend, the dowel may be extended at least 12 inches into the footing, with a minimum concrete cover of 3 inches at the bottom. In lieu of dowels, mechanical means or alternate methods may be used as anchorage of interior walls to footings.

Karst Determination: Go to www.iowaDNR.com, select the link to 'Mapping (GIS Interactive)', then check the AFO Siting Atlas. If the site is in karst or potential karst, if you cannot access the map, or if you have questions about this issue, contact a DNR geologist at (515) 242-6848. Check one of the following:

- ☒ The site is not in karst or potential karst. If the site is not located in karst or potential karst, print and enclose the map with the name and location of the site clearly marked.
- ☐ The DNR has verified that the site is in karst. The upgraded concrete standards of 567 IAC 65.15(14)"c" are used:

567 IAC 65.15(14)"c". Karst terrain—upgraded standards. If the site of the proposed formed manure storage structure is located in an area that exhibits karst terrain or an area that drains into a known sinkhole, the minimum concrete standards set forth in 65.15(14)"a" or "b" shall apply. In addition, the following requirements apply to all formed manure storage structures that store nondry or dry manure:

- ☐ (1) A minimum 5-foot vertical separation distance between the bottom of a formed manure storage structure and limestone, dolomite, or other soluble rock is required if the formed manure storage structure is not designed by a PE or an NRCS engineer.
- ☐ (2) If the vertical separation distance between the bottom of the proposed formed manure storage structure and limestone, dolomite, or other soluble rock is less than 5 feet, the structure shall be designed and sealed by a PE or an NRCS engineer who certifies the structural integrity of the structure. A 2-foot-thick layer of compacted clay liner material shall be constructed underneath the floor of the formed manure storage structure. However, it is recommended that any formed manure storage structure be constructed aboveground if the vertical separation distance between the bottom of the structure and the limestone, dolomite, or other soluble rock is less than 5 feet.
- ☐ (3) In addition, in an area that exhibits karst terrain or an area that drains into a known sinkhole, a PE, an NRCS engineer or a qualified organization shall submit a soil exploration study based on the results from soil borings or test pits to determine the vertical separation between the bottom of the formed structure and limestone, dolomite, or other soluble rock. A minimum of two soil borings or two test pits, equally spaced within each formed structure, are required. After soil exploration is completed, each soil boring and pit shall be properly plugged with concrete grout, bentonite, or similar materials.

¹ PE includes a professional engineer licensed in the state of Iowa or an NRCS Engineer.

² To determine the AUC see the "Manure Storage Indemnity Fee" (DNR Form 542-4021) or the 'Construction Permit Application' (DNR Form 542-1428) or contact the DNR (see page 2 for contact information)

Formed manure storage structure = covered or uncovered concrete or steel tank, and concrete pit below the building

- ☐ (4) Groundwater monitoring shall be performed as specified by the department.
- ☐ (5) Backfilling shall not start until the floor slats have been placed or permanent bracing has been installed, and shall be performed with material free of vegetation, large rocks, or debris.

Alluvial Soils Determination: Go to www.iowaDNR.com, select the link to 'Mapping (GIS Interactive)', then check the AFO Siting Atlas. If the site is in potential alluvial soils, if you cannot access the map, or if you have questions about this issue, contact a DNR geologist at (515) 242-6848. Check one of the following:

- ☒ The site is not in alluvial soils. If the site is not in potential alluvial soils, print and enclose the map with the name and location of the site clearly marked.
- ☐ If the site is in alluvial soils, submit one of the following:
- ☐ Include correspondence from the DNR showing the site is not in 100-year floodplain or does not require a floodplain permit.
 - ☐ Include a copy of the Floodplain Permit if a floodplain permit is required.

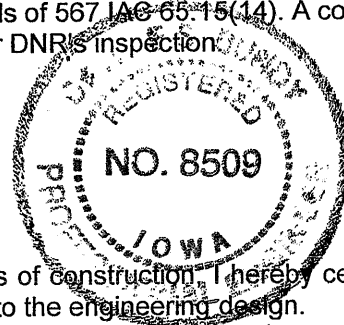
Groundwater separation requirements: (check one of the following boxes):

- ☒ A drain tile shall be installed along the footings to artificially lower the groundwater table, pursuant to 65.15(7)"b".
- ☒ If applying for a construction permit, the drain tiles will have a device to allow shut off and monitoring, if the drain tiles do not have a surface outlet accessible in the property, as required in 65.15(1)"c".
- ☐ In lieu of the drain tile, a certification signed by a PE², a groundwater professional certified pursuant to 567 Chapter 134, a qualified staff from NRCS, or a qualified organization, is being submitted indicating that the groundwater elevation, measured according to 65.15(7)"c", is above the bottom of the formed structure.

Engineer's Certification: I hereby certify that I will prepare/have prepared a site-specific design for the formed manure storage structure³(s) referenced above that complies with the minimum concrete standards of 567 IAC 65-15(14). A copy of the site-specific engineering report, plans and specifications will be available on site for DNR's inspection.
(Include PE engineering seal, stamp, signature in contrasting color ink and date)

Company: Dwaine S. Bundy, P.E.
Address: 2015 Indian Grass Ct, Ames, Iowa 50014
Phone No. 515-292-8025
Fax No. 515-292-8138

Dwaine Bundy
8509 IA
3/13/2012

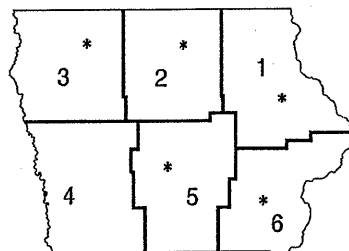


Contractor's Certification If the PE¹ will not be present on site observing critical points of construction, I hereby certify that I will construct the formed manure storage structure³(s) referenced above according to the engineering design.

Key Slot (Print Contractor's Name) *Andy Mull* (Contractor's Signature) *3-16-12* (Date)
Key Slot Box 543 1112 20th N (Company) *Humboldt IA* (Address) *515-332-4014* (Phone No.)
50548

Mailing Instructions: Mail this 'PE Design Certification' according to the following:

- Operations with an AUC² between 501 and 999 AU and constructing a formed manure storage structure³, required to submit a manure management plan (MMP), prior to beginning construction must file this 'PE Design Certification', the karst and alluvial soils documentation requested in pages 1 and 2, the MMP and fees to the nearest DNR Field Office:



Field Office 1
909 West Main, Suite 4
Manchester, IA 52057
(563) 927-2640

Field Office 2
2300 15th St SW
Mason City, IA 50401
(641) 424-4073

Field Office 3
1900 N. Grand Avenue
Spencer, IA 51301
(712) 262-4177

Field Office 4
1401 Sunnyside Lane
Atlantic, IA 50022
(712) 243-1934

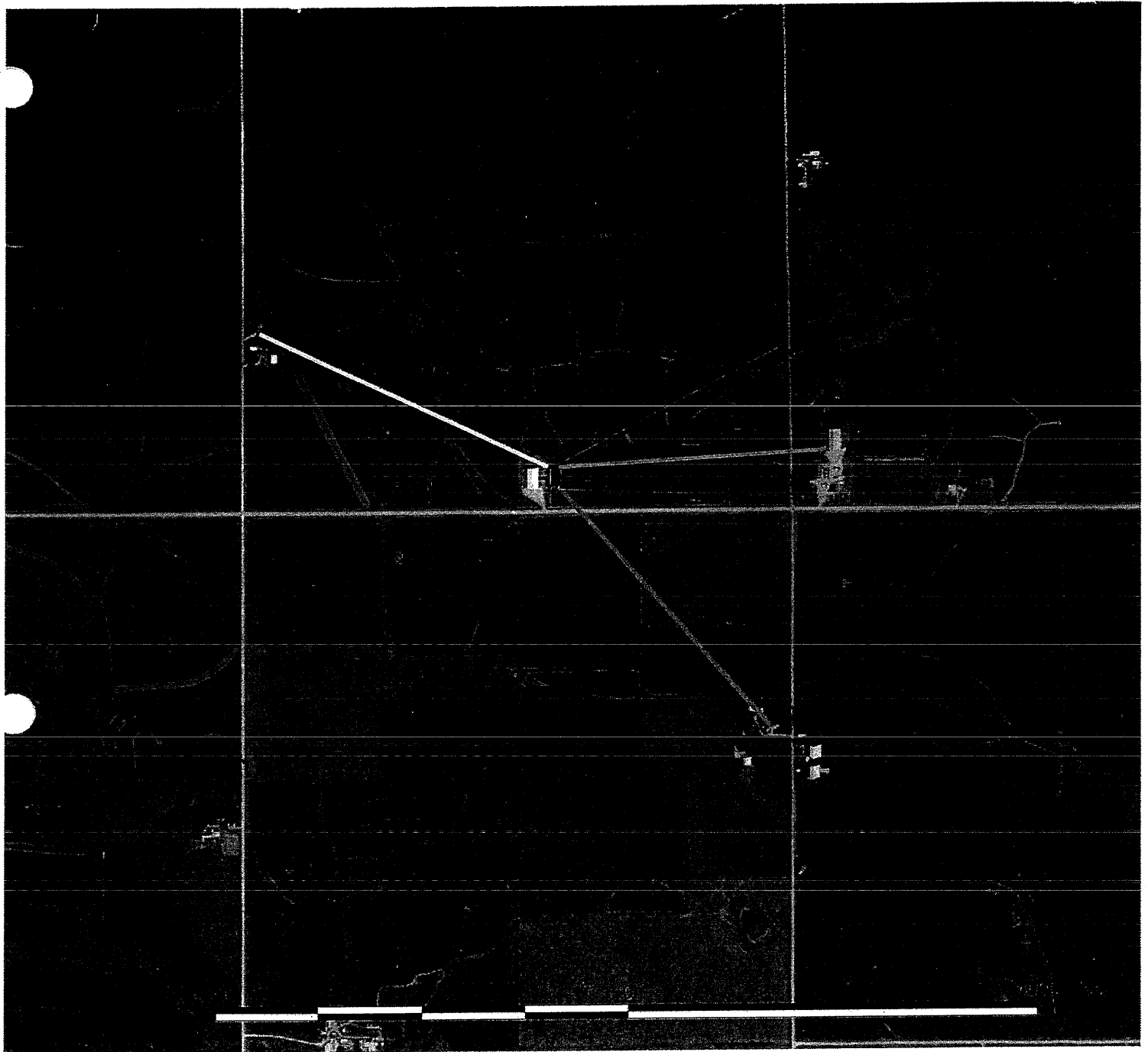
Field Office 5
401 SW 7th, Suite 1
Des Moines, IA 50309
(515) 725-0268

Field Office 6
1023 W. Madison
Washington, IA 52353
(319) 653-2135

- If a construction permit is required (AUC² = 1,000 AU or more and constructing a formed manure storage structure³), mail this form as required in the construction permit application form (DNR Form 542-1428).

If you have any questions regarding the concrete standards requirements and this PE Design Certification, contact an engineer of the AFO- Program at (515) 281-8941, the nearest DNR Field Office, or visit www.iowaDNR.com.

Site; 12 (0.47 ac.)



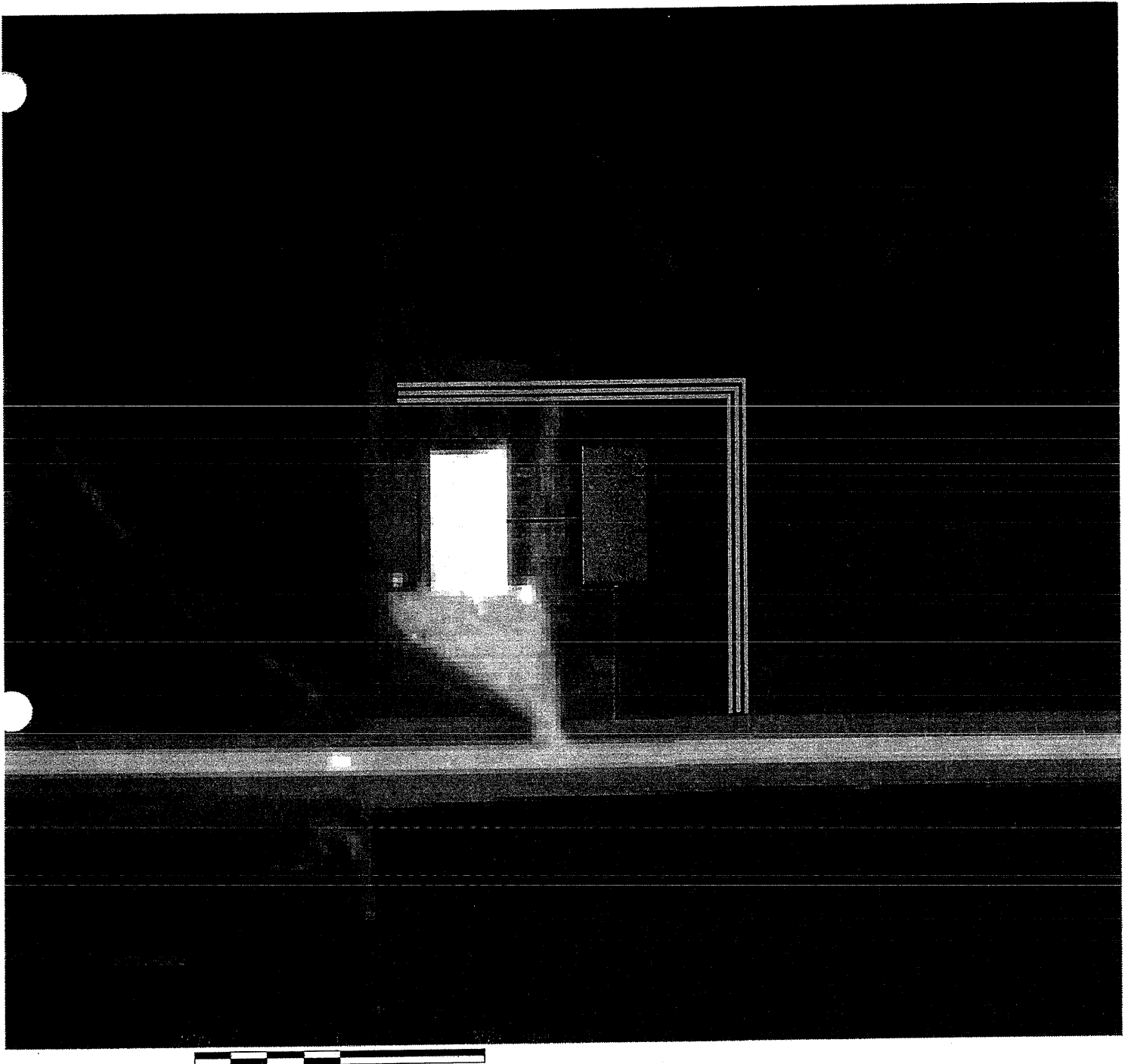
No Public Use within 4001'
No Educational, Religious, or Commercial Ent within 3376'
No Well within 101'
No Ag Drainage Well, Known Sinkhole, or Major Water within 3501'
No HQ, HQR, or PWA within 1001'

Date: Feb 17, 2012
Field Name: Site; 12
Location: Poweshiek Co., Iowa, U.S.
Section 15, T81N, R16W
Farm Name: P 301
Client Name: P-Index
Total Acres: 0.47
Field Boundary Start Location:
Latitude: 41.82030300
Longitude: -92.69706433



Distance To P 244
2636.03
Distance To Water
2459.279
Res
2440.743
3113.77
3152.56
Distance between barns
100.782
Distance To Fence
186.023
(0.5ac.)Field Boundary

Site; 12 (0.47 ac.)



Date: Mar 21, 2012
Field Name: Site; 12
Location: Poweshiek Co., Iowa, U.S.
Section 15, T81N, R16W
Farm Name: P 301
Client Name: P-Index
Total Acres: 0.47
Field Boundary Start Location:
Latitude: 41.82030300
Longitude: -92.69706433



△ Trees
Distance between barns
△ 100.782
Distance To Fence
△ 186.023
■ (0.5ac.) Field Boundary



PI301

Preparer Information:
Lynn Collins Seaba #AT0007086
Malloy Law Firm,
PO Box 128,
Goldfield IA 50542
(515) 825-3181

OFFER TO BUY REAL ESTATE AND ACCEPTANCE

TO: **Hafkey Farms, Inc, an Iowa Corporation**
501 Newburg Rd
Grinnell IA 50112

1. **REAL ESTATE DESCRIPTION.** Buyers offer to buy real estate in Poweshiek County, Iowa, described as follows: **A tract of land approximately 140 feet x 480 feet to be more particularly described by survey, lying adjacent to and East of Parcel A in the Southeast Quarter of Section Fifteen, Township Eighty-one North, Range Sixteen West of the 5th P.M., according to the Plat thereof appearing of Record in Survey Book 12 at page 227, Poweshiek County, Iowa, with any easements and appurtenant servient estates, but subject to the following: a. any zoning and other ordinances; b. any covenants of record; c. any easements of record for public utilities, roads and highways designated the Real Estate; provided Buyers, on possession, are permitted to make the following use of the Real Estate: residential.**

2. **PRICE.** The purchase price shall be computed after survey based upon price of \$10,000.00 per acre due and payable to the Sellers at closing.

3. **REAL ESTATE TAXES.** Sellers shall pay prorated to date of closing and any unpaid real estate taxes payable in prior years. Buyers shall pay all subsequent real estate taxes. Any proration of real estate taxes on the Real Estate shall be based upon such taxes for the year currently payable unless the parties state otherwise.

4. **SPECIAL ASSESSMENTS.** Sellers shall pay all special assessments that are a lien against the Real Estate as of the date of acceptance of this offer. All other special assessments shall be paid by Buyers.

5. **RISK OF LOSS AND INSURANCE.** Risk of loss prior to Seller's delivery of possession of the Real Estate to Buyers shall be as follows: All risk of loss shall remain with Sellers until possession of the Real Estate shall be delivered to Buyers.

6. **CARE AND MAINTENANCE.** The Real Estate shall be preserved in its present condition and delivered intact at the time possession is delivered to Buyers.

7. **POSSESSION AND CLOSING.** If Buyers timely perform all obligations, possession of the Real Estate shall be delivered to Buyers at the execution of this contract. Closing of this transaction shall occur on or before April 15, 2012 provided that the survey and abstract and title examination showing good and merchantable title have been completed prior to then and provided that Buyer has been able to obtain a

construction permit for construction of hog confinement facility on the property that is the subject of this agreement.

8. FIXTURES. All property that integrally belongs to or is part of the Real Estate, whether attached or detached, fencing, gates and landscaping shall be considered a part of Real Estate and included in the sale.

9. USE OF PURCHASE PRICE. At time of settlement, funds of the purchase price may be used to pay taxes and other liens and to acquire outstanding interests, if any, of others.

10. ABSTRACT AND TITLE. Sellers shall provide to Buyers an abstract of title to the existing Real Estate. In the event no such abstract exists, Sellers, at their expense, shall obtain an abstract of title. Sellers, at their expense, shall promptly update the abstract of title to the Real Estate continued through the date of acceptance of this offer. It shall show merchantable title in Sellers in conformity with this agreement, Iowa law and Title Standards of the Iowa State Bar Association. The abstract shall become the property of the Buyers when the purchase price is paid in full. Buyers shall also obtain a continued abstract at Buyer's expense covering the property to reflect a manure easement filed of record. Buyers shall pay the costs of any additional abstracting and title work due to any act or omission of Sellers, including transfers by or the death of Sellers or their assignees.

11. DEED. Upon payment of the purchase price, Sellers shall convey the Real Estate to Buyers or their assignees, by Warranty Deed, free and clear of all liens, restrictions, and encumbrances. Any general warranties of title shall extend only to the time of acceptance of this offer, with special warranties as to acts of Sellers continuing up to time of delivery of the deed.

12. JOINT TENANCY IN PROCEEDS AND IN REAL ESTATE. If Sellers, immediately preceding acceptance of this offer, hold title to the Real Estate in joint tenancy with full right of survivorship, and the joint tenancy is not later destroyed by operation of law or by acts of the Sellers, then the proceeds of this sale, and any continuing or recaptured rights of Sellers in the Real Estate, shall belong to Sellers as joint tenants with full rights of survivorship and not as tenants in common; and Buyers, in the event of the death of either Seller, agree to pay any balance of the price due Sellers under this contract to the surviving Seller and to accept a deed from the surviving Seller consistent with paragraph 11.

13. JOINDER BY SELLER'S SPOUSE. Seller's spouse, if not a titleholder immediately preceding acceptance of this offer, executes this contract only for the purpose of relinquishing all rights of dower, homestead and distributive shares or in compliance with Section 561.13 of the Iowa Code and agrees to execute the deed or real estate contract for this purpose.

14. TIME IS OF THE ESSENCE. Time is of the essence in this contract.

15. REMEDIES OF THE PARTIES

- a. If Buyers fail to timely perform this contract, Sellers may forfeit it as provided in the Iowa Code, and all payments made shall be forfeited or, at Seller's option, upon thirty days written notice of intention to accelerate the payment of the entire balance because of such failure is not corrected. Sellers may declare the entire balance immediately due and payable. Thereafter this contract may be foreclosed in equity and the Court may appoint a receiver.
- b. If Sellers fail to timely perform this contract, Buyers have the right to have all payments made returned to them.
- c. Buyers and Sellers also are entitled to utilize any and all other remedies or actions at law or in equity available to them and shall be entitled to obtain judgment for costs and attorney fees as permitted by law.

16. STATEMENT AS TO LIENS. If Buyers intend to assume or take subject to a lien on the Real Estate, Sellers shall furnish Buyers with a written statement from the holder of such lien, showing the correct balance due.

17. SUBSEQUENT CONTRACT. Any real estate contract executed in performance of this contract shall be on a form of the Iowa State Bar Association.

18. APPROVAL OF COURT. If the sale of the Real Estate is subject to Court approval, the fiduciary shall promptly submit this contract for such approval. If this contract is not so approved, it shall be void.

19. CONTRACT BINDING ON SUCCESSORS IN INTEREST. This contract shall apply to and bind the successors in interest of the parties.

20. CONTRUCTION. Words and phrases shall be construed as in the singular or plural number, and as masculine, feminine or neuter gender, according to the context.

21. SURVEY. The Buyers will arrange for and pay for the survey to determine the boundary and legal description of the property to be conveyed. Seller agrees to cooperate and assist in the performance of this survey.

22. MANURE EASEMENT. This property is in addition to property previously conveyed from Sellers to Buyer for construction of a hog confinement facility. Sellers agree to cooperate with Buyer to assist in the modification, if required by IADNR, of the easements to add the additional property. The Sellers consent to the assignment of the easements to the additional ground.

BUYER:

Date: 3/12/12

THIS OFFER IS ACCEPTED:

Date: 3/12/12

PRESTAGE FARMS OF IOWA, LLC

By: Ryan Pudenz

George Hafkey
Hafkey Farms, Inc. (SELLER)

By: George Hafkey, Its President

02/22/2012

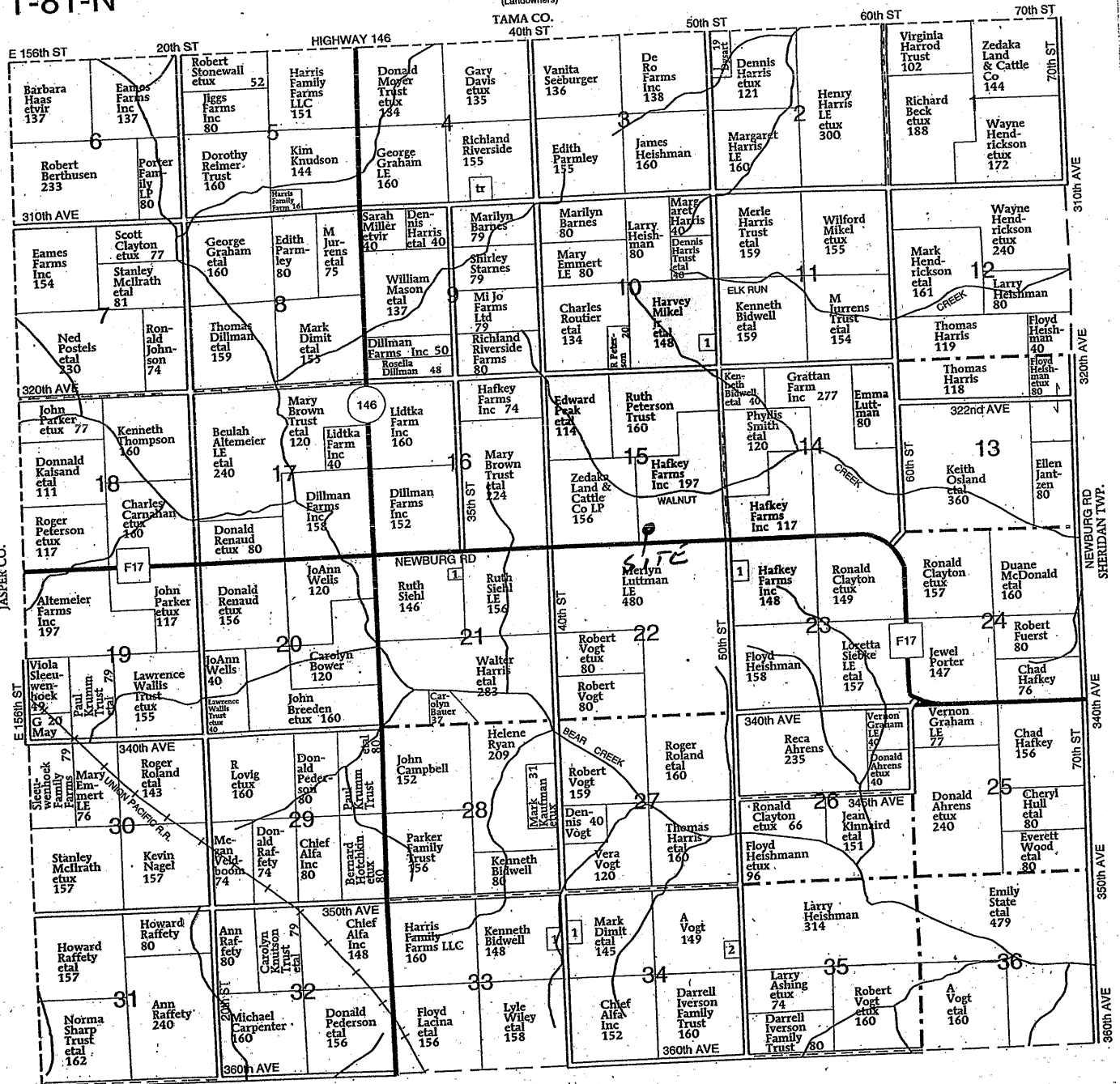
MEASURE EQUIVALENTS

1 Cup 8 fluid ounces	1/3 cup 3 ounces	16 tablespoons 1 cup
3/4 cup 6 fluid ounces	1/4 cup 2 ounces	12 tablespoons 3/4 cup
2/3 cup 5 ounces	1/8 cup 1 ounce	11 tablespoons 2/3 cup
1/2 cup 4 ounces	1/16 cup 1/2 ounce	8 tablespoons 1/2 cup

T-81-N

CHESTER PLAT

R-16-W



CHESTER TOWNSHIP
SECTION 10
1. McNeil, Wayde

SECTION 21
1. Wailes, Troy
SECTION 23

SECTION 33
1. McAlexander, Kevin

SECTION 34
1. Fenner, Carl
2. Wilson, Gary

DNR

Manure Management Plan Form

Animal Feeding Operation Information

B-2201

Instructions: Complete this form for your animal feeding operation. Footnotes are provided on page 4.

The information within this form, and the attachments, describes my animal feeding operation, my manure storage and handling system, and my planned manure management system. I (we) will manage the manure, and the nutrients it contains, as described within this manure management plan (MMP) and any revisions of the plan, individual field information, and field summary sheet, and in accordance with current rules and regulations. Deviations permitted by Iowa law will be documented and maintained in my records.

Signed:

(Signature)

Prestage Farms of IA, LLC

(Print name)

Ryan Puchner

Date: 3/27/12

Facility ID No.

65294

Name of operation: PL-301

Location of the operation:

455 Newburg Road

(911 address)

Grinnell, IA 50112

(Town)

(State)

(Zip)

Chester

(Township Name)

Poweshick

(County)

SW

(1/4 1/4)

1/4 of the SE

(1/4)

1/4 of Sec:

15

(Section)

T 81

R 16

(Twp & Range)

Owner and contacts of the animal feeding operation:

Owner: Prestage Farms of Iowa, LLC

Address: 1421 S Bell Ave Ames, IA 50010

E-mail address (optional):

Phone: 515-233-1813

Cell phone (optional):

Contact person (if different than owner): Brian Rutland

Address: 620 Country Club Rd Iowa Falls, IA 50126

E-mail address (optional): brlrland@pinnacleiowa.com

Phone: 541-648-7300

Cell phone (optional):

Contract company (if applicable):

Address:

Phone:

This manure management plan is for: (check one)

existing operation, not expanding

X existing operation, expanding

existing operation, new owner

new operation

Construction and Expansion Dates:

2007

date of initial construction
and all expansions

Table 1. Information about livestock production and manure management system

1	2	3	4	5	6	7	8
Animal type/ Production phase ^a	Max # of animals confined	Manure Storage Structure ^b	N ^c	P ₂ O ₅ ^c	gal/space/dy ^d	Days/yr Facility occupied	Annual Manure Produced ^e
Wean/finsh (wean/dy) <input checked="" type="checkbox"/>	4992	BBP	56	33	0.7	365	1,275,456
Select production phase <input type="checkbox"/>			0	0	0.0		000
Select production phase <input type="checkbox"/>			0	0	0.0		000
Total Gallons							1,275,456

9,984

animals/year

Source of Manure Nutrient Content Data (standard tables, manure analysis, other):

Tables

Instructions: Complete this form for your animal feeding operation. Footnotes are provided on page 4.

The information within this form, and the attachments, describes my animal feeding operation, my manure storage and handling system, and my planned manure management system. I (we) will manage the manure, and the nutrients it contains, as described within this manure management plan (MMP) and any revisions of the plan, individual field information, and field summary sheet, and in accordance with current rules and regulations. Deviations permitted by Iowa law will be documented and maintained in my records.

Signed:

(Signature)

(Print name)

Date:

Name of operation:

PI-301

Facility ID No.

65294

Location of the operation:

455 Newburg Road

(911 address)

Grinnell, IA 50112

(Town)

(State)

(Zip)

SW

1/4 of the SE

1/4 of Sec

15

T 81

R 16

Chester

Poweshiek

(1/4 1/4)

(1/4)

(Section)

(Tier & Range)

(Township Name)

(County)

Owner and contacts of the animal feeding operation:

Owner

Prestage Farms of Iowa, LLC

Phone

515-233-1813

Address

1421 S Bell Ave Ames, IA 50010

E-mail address (optional)

Cell phone (optional)

Contact person (if different than owner)

Brian Ritland

Phone

641-648-7300

Address

620 Country Club Rd Iowa Falls, IA 50126

E-mail address (optional)

britland@pinnacleiowa.com

Cell phone (optional)

Contract company (if applicable)

Phone

Address

This manure management plan is for: (check one)

existing operation, not expanding

☒ existing operation, expanding

existing operation, new owner

new operation




Construction and Expansion Dates:

2007

date of initial construction

and all expansions

Table 1. Information about livestock production and manure management system

1	2	3	4	5	6	7	8
Animal type/ Production phase ^a	Max # of animals confined	Manure Storage Structure ^b	N ^c	P ₂ O ₅ ^c	gal/space/dy ^d	Days/yr Facility occupied	Annual Manure Produced ^e
Wean/finish (wet/dry) 	4992	BBP	56	38	0.2	365	1,275,456
Select production phas 			0	0	0.0		000
Select production phas 			0	0	0.0		000
Total Gallons							1,275,456

9,984

animals/year

Source of Manure Nutrient Content Data (standard tables, manure analysis, other):

Tables

Instructions: Complete a worksheet for each unique combination of the following factors (crop rotation, optimum crop yield, manure nutrient concentration, remaining crop N need, method of application) that occurs at this operation. Complete form by filling in blanks, yellow-colored cells, and drop down menus. Gray shaded cells will calculate automatically. Footnotes are given on pages 4, 5 and 6.

Management Identification (Mgt ID)^g _____

Corn-Corn N Rate (A) _____

Method to determine optimum crop yield^h USDA Iowa Ag Statistics County yields

Timing of application Spring/Fall

Method of applicationⁱ Knifed in or soil injection of liquid manure

Application loss factor 0.0

If spray irrigation is used, identify method _____

Table 2. Manure nutrient concentration

Manure Nutrient Content (lbs/1000gal or lbs/ton)					
Manure Storage Structure(s) ^k		BBP			
Total N ^l	56	P ₂ O ₅	38		
%TN Available 1st year	90%	2nd year	0%	3rd year	0%
Available N 1st year ^m	49.4	2nd year ⁿ	0.0	3rd year ^o	0.0

Table 3. Crop usage rates^p

lb/bu or lb/ton	N	P ₂ O ₅
Corn	1.2	0.375
Soybean	3.8	0.8
Alfalfa	50	12.5
Other crop	0	0

*Use blank space above to add crop not listed.

Table 4. Calculations for rate based on nitrogen (always required)

		Corn	Corn	Corn	Corn
1	Applying Manure For (crop to be grown) ^q				
2	Optimum Crop Yield ^h	bu or ton/acre	192	192	192
3	P ₂ O ₅ removed with crop by harvest ^r	lb/acre	22.0	22.0	22.0
4	Crop N utilization ^s	lb/acre	23.6	23.6	23.6
5a	Legume N credit ^t	lb/acre	0.00	0	0
5b	Commercial N planned ^u	lb/acre	0	0	0
5c	Manure N carryover credit ^v	lb/acre	0	0.0	0.0
6	Remaining crop N need ^w	lb/acre	230	230	230
7	Manure rate to supply remaining N	gal/acre	4665	4665	4665
8	P ₂ O ₅ applied with N-based rate ^y	lb/acre	177	177	177

Table 5. Calculations for rate based on phosphorus (fill out only if P-based rates are planned)

9	Commercial P ₂ O ₅ planned	lb/acre	0	0	0	0
10	Manure rate to supply P removal ^{aa}	gal/acre	1895	1895	1895	1895
11	Manure rate for P based plan ^{bb}	gal/acre	1895	1895	1895	1895
12	Manure N applied with P-based plan ^{cc}	lb/acre	94	94	94	94

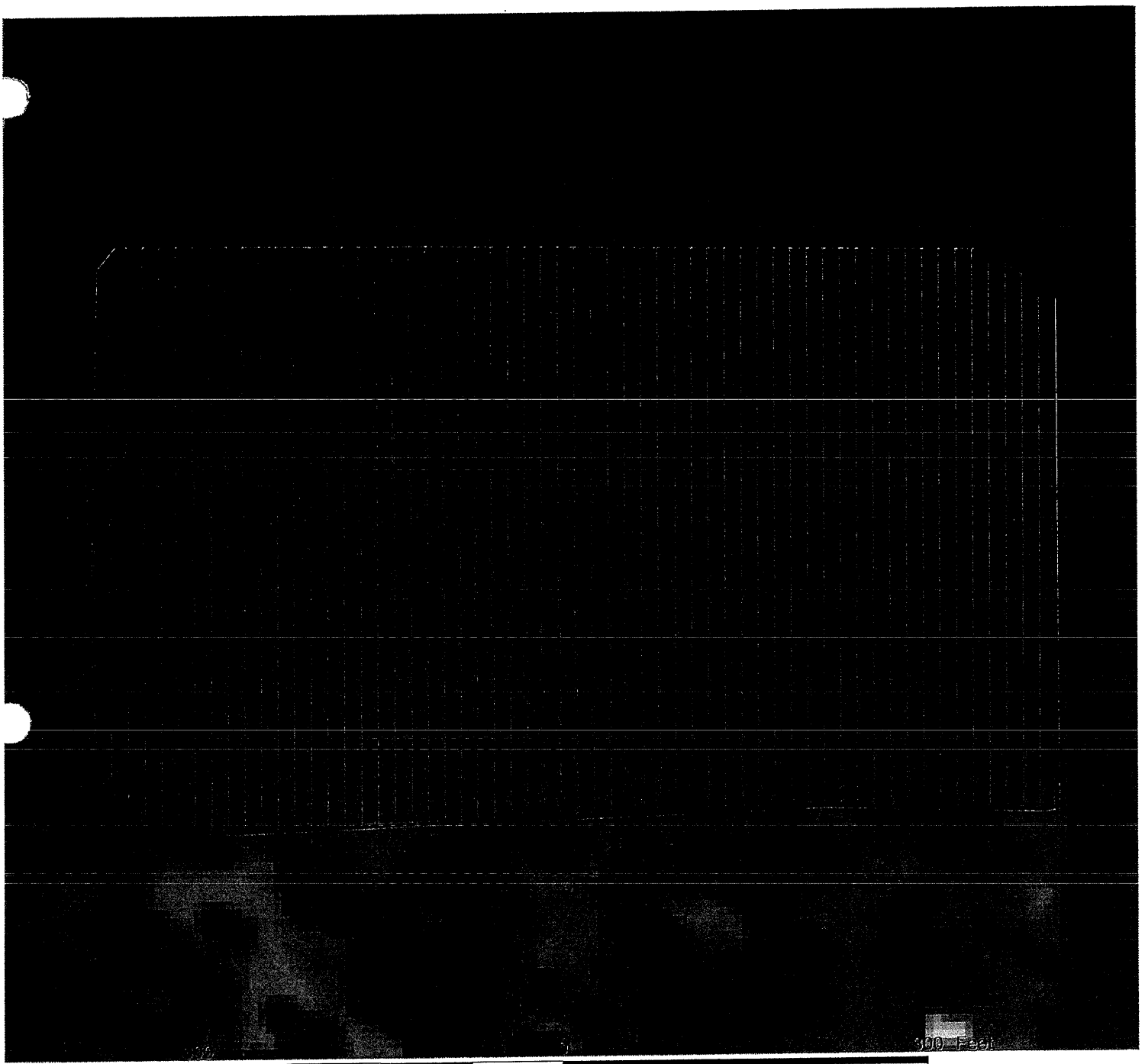
Table 6. Application rates that will be carried over to page 3

13	Planned manure application rate ^{dd}	gal/acre	4665	4665	4665	4665
----	---	----------	------	------	------	------

When applicable, manure application rates must be based on the P index value as follows:


- (0-2) N-based manure management.
- (>2-5) N-based manure management but P application rate cannot exceed two times the P removal rate of the crop schedule.
- (>5-10) Until December 31, 2008, P-based manure management while adopting practices to reduce P index to 5 or below.
- (>10) No manure application until practices are adopted to reduce P index to 5 or below

79811610P3400; 12 (8.66 ac.)

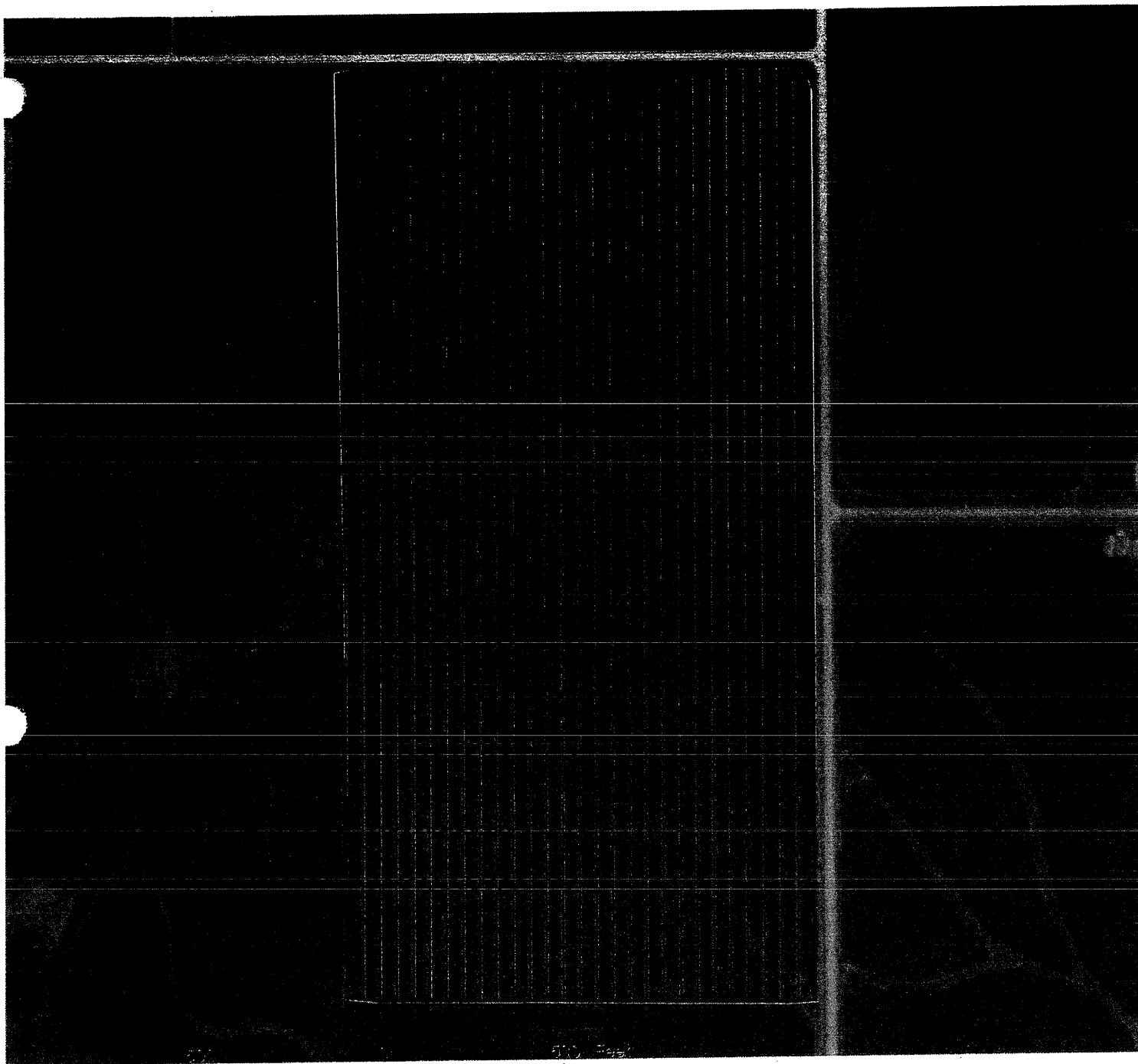


Date: Mar 21, 2012
Field Name: 79811610P3400; 12
Location: Poweshiek Co., Iowa, U.S.
Section 10, T81N, R16W
Farm Name: P 244
Client Name: P-Index
Total Acres: 8.66
Field Boundary Start Location:
Latitude: 41.83706001
Longitude: -92.70028945




 (8.7ac.) Field Boundary

79811614P1600; 12 (77.62 ac.)

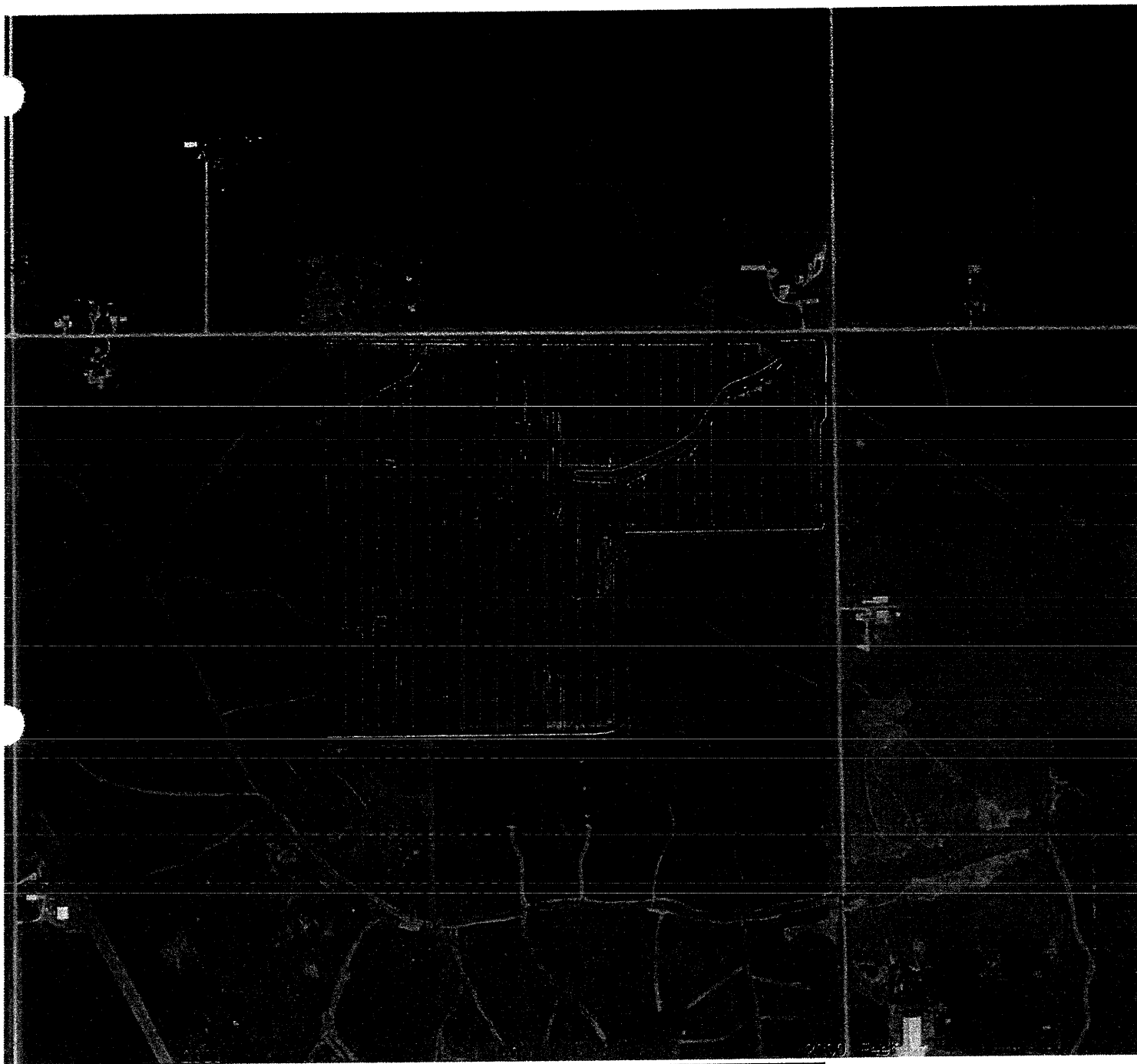


Date: Mar 21, 2012
Field Name: 79811614P1600; 12
Location: Poweshiek Co., Iowa, U.S.
Section 14, T81N, R16W
Farm Name: P 244
Client Name: P-Index
Total Acres: 77.62
Field Boundary Start Location:
Latitude: 41.83402391
Longitude: -92.67235839




 (77.6ac.) Field Boundary

79811615P1000; 12 (140.02 ac.)

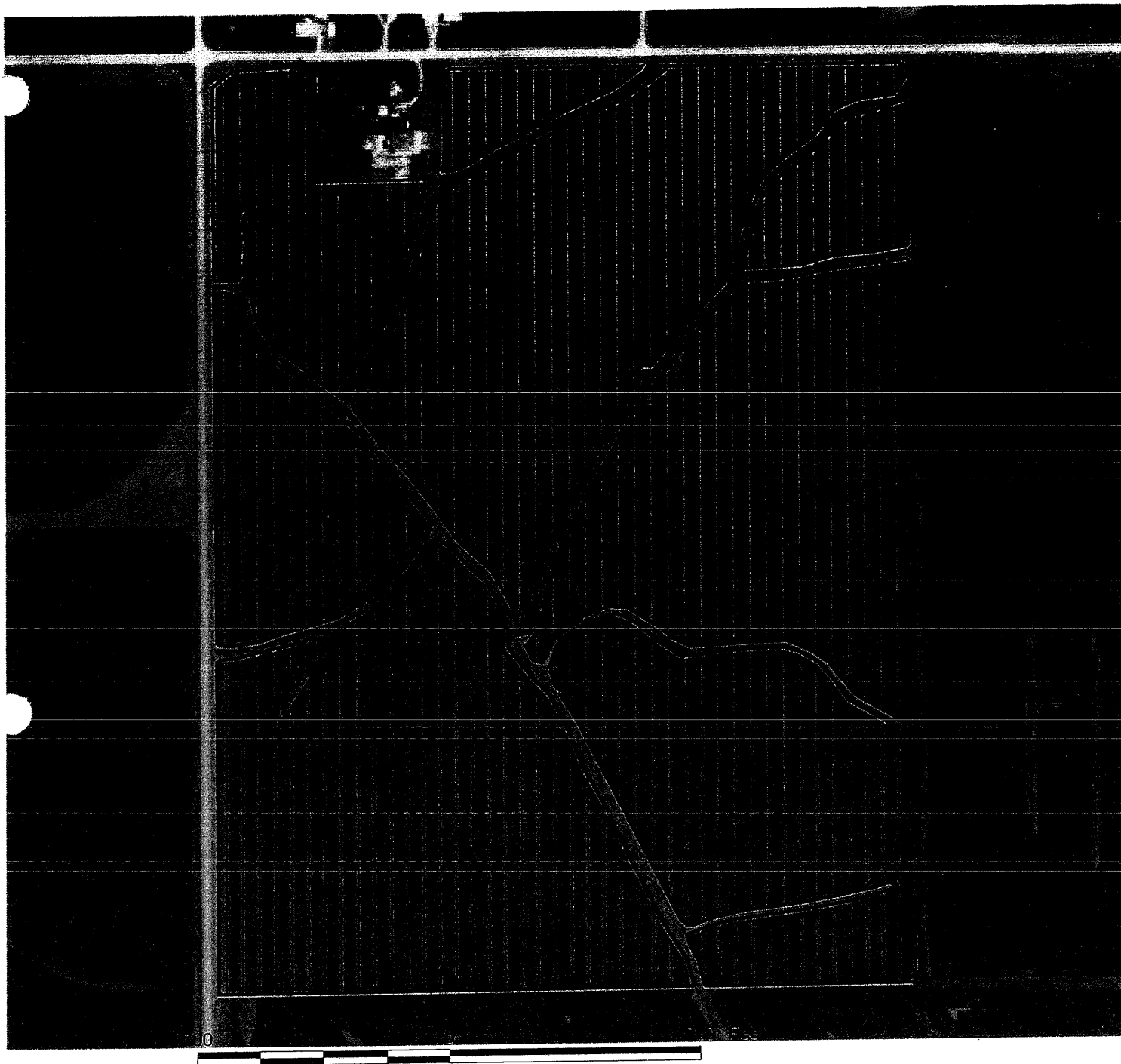


Date: Mar 21, 2012
Field Name: 79811615P1000; 12
Location: Poweshiek Co., Iowa, U.S.
Section 15, T81N, R16W
Farm Name: P 244
Client Name: P-Index
Total Acres: 140.02
Field Boundary Start Location:
Latitude: 41.83404711
Longitude: -92.68989867



 (140.0ac.) Field Boundary

79811615P2000; 12 (107.31 ac.)

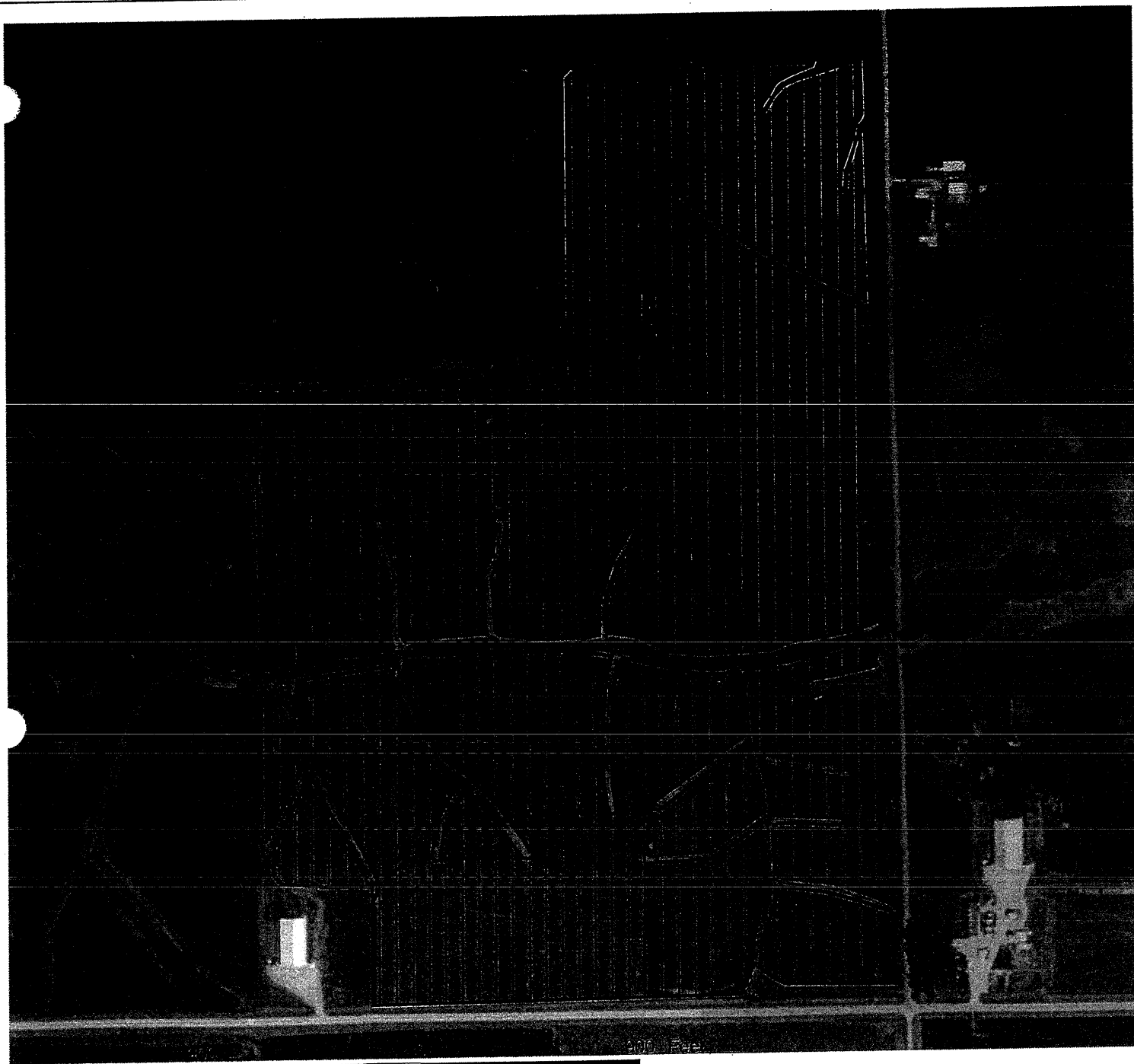


Date: Mar 21, 2012
Field Name: 79811615P2000; 12
Location: Poweshiek Co., Iowa, U.S.
Section 15, T81N, R16W
Farm Name: P 244
Client Name: P-Index
Total Acres: 107.31
Field Boundary Start Location:
Latitude: 41.82969198
Longitude: -92.70786441



□ (107.3ac.) Field Boundary

79811615P4000; 12 (168.24 ac.)

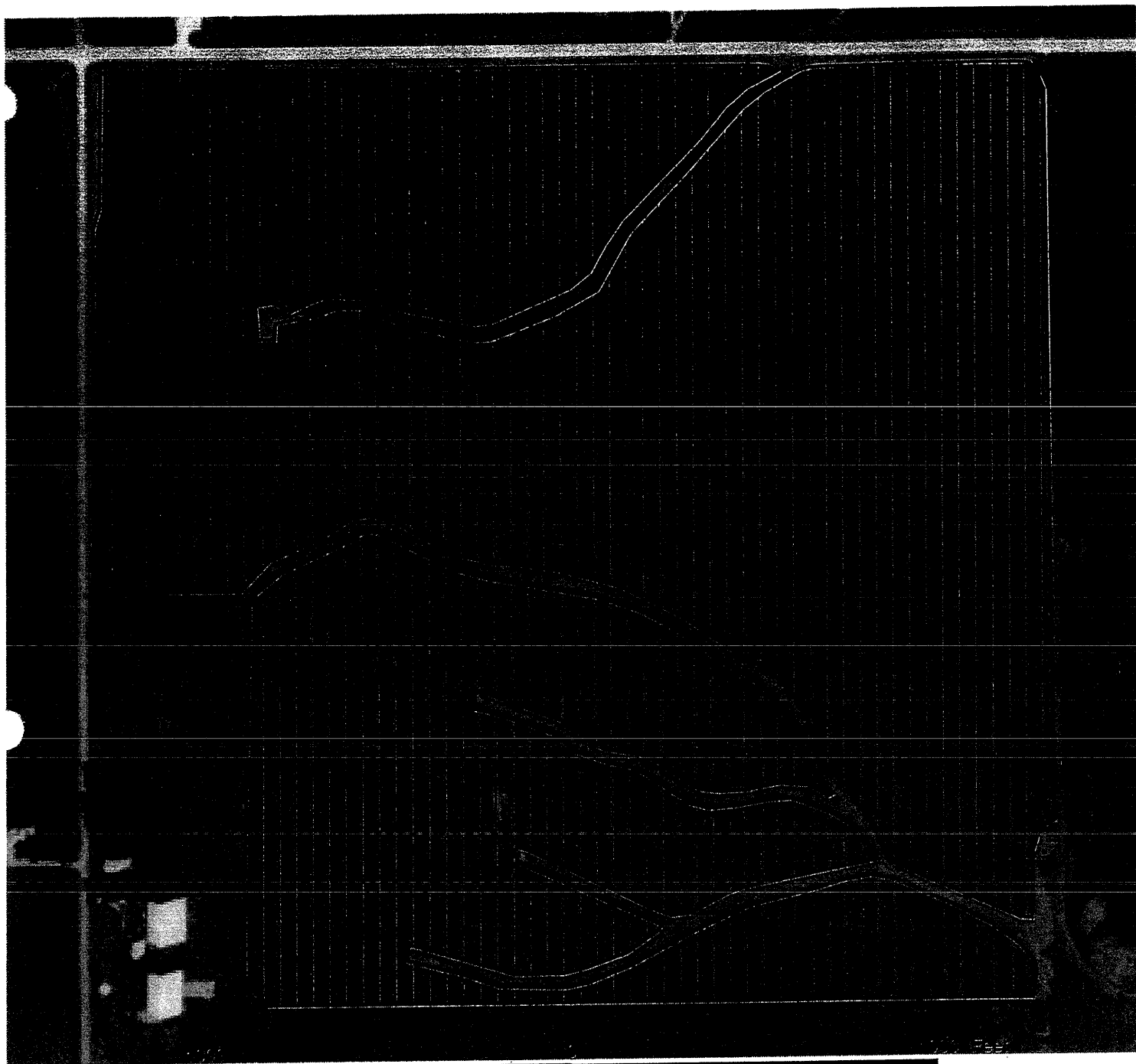


Date: Mar 21, 2012
Field Name: 79811615P4000; 12
Location: Poweshiek Co., Iowa, U.S.
Section 15, T81N, R16W
Farm Name: P 244
Client Name: P-Index
Total Acres: 168.24
Field Boundary Start Location:
Latitude: 41.82117423
Longitude: -92.69722128




□ (168.24 ac.) Field Boundary

79811623P2000; 12 (136.59 ac.)



Date: Mar 21, 2012
Field Name: 79811623P2000; 12
Location: Poweshiek Co., Iowa, U.S.
Section 23, T81N, R16W
Farm Name: P 244
Client Name: P-Index
Total Acres: 136.59
Field Boundary Start Location:
Latitude: 41.81261167
Longitude: -92.67886248



 (136.6ac.) Field Boundary

PLANT **MANURE NUTRIENT CONCENTRATION** **MANURE APPLICATION RATE** **MANURE APPLICATION LOSS FACTOR**

Instructions: Complete a worksheet for each unique combination of the following factors (crop rotation, optimum crop yield, manure nutrient concentration, remaining crop N need, method of application) that occurs at this operation. Complete form by filling in blanks, yellow-colored cells, and drop down menus. Gray shaded cells will calculate automatically. Footnotes are given on pages 4, 5 and 6.

Management Identification (Mgt ID)^g **Corn-Corn P Rate (B)**

Method to determine optimum crop yield^h USDA Iowa Ag Statistics County yields Timing of application Spring/Fall
 Method of applicationⁱ Knifed in or soil injection of liquid manure Application loss factor 0.8
 If spray irrigation is used, identify method _____

Table 2. Manure nutrient concentration

Manure Nutrient Content (lbs/1000gal or lbs/ton)					
Manure Storage Structure(s) ^k		BBP			
Total N ^l	56	P ₂ O ₅		38	
%TN Available 1st year	90%	2nd year	0%	3rd year	0%
Available N 1st year ^m	50.4	2nd year ⁿ	0.0	3rd year ^o	0.0

Table 3. Crop usage rates^p

lb/bu or lb/ton	N	P ₂ O ₅
Corn	1.2	0.375
Soybean	3.8	0.8
Alfalfa	50	12.5
Other crop	0	0

*Use blank space above to add crop not listed.

Table 4. Calculations for rate based on nitrogen (always required)

1	Applying Manure For (crop to be grown) ^q		Corn	Corn	Corn	Corn
2	Optimum Crop Yield ^h	bu or ton/acre	192	192	192	192
3	P ₂ O ₅ removed with crop by harvest ^r	lb/acre	72.0	72.0	72.0	72.0
4	Crop N utilization ^s	lb/acre	230	230	230	230
5a	Legume N credit ^t	lb/acre	0.00	0	0	0
5b	Commercial N planned ^u	lb/acre	0	0	0	0
5c	Manure N carryover credit ^v	lb/acre	0	0.0	0.0	0.0
6	Remaining crop N need ^w	lb/acre	230	230	230	230
7	Manure rate to supply remaining N	gal/acre	4665	4665	4665	4665
8	P ₂ O ₅ applied with N-based rate ^y	lb/acre	177	177	177	177

Table 5. Calculations for rate based on phosphorus (fill out only if P-based rates are planned)

9	Commercial P ₂ O ₅ planned	lb/acre	0	0	0	0
10	Manure rate to supply P removal ^{aa}	gal/acre	1895	1895	1895	1895
11	Manure rate for P based plan ^{bb}	gal/acre	1895	1895	1895	1895
12	Manure N applied with P-based plan ^{cc}	lb/acre	94	94	94	94

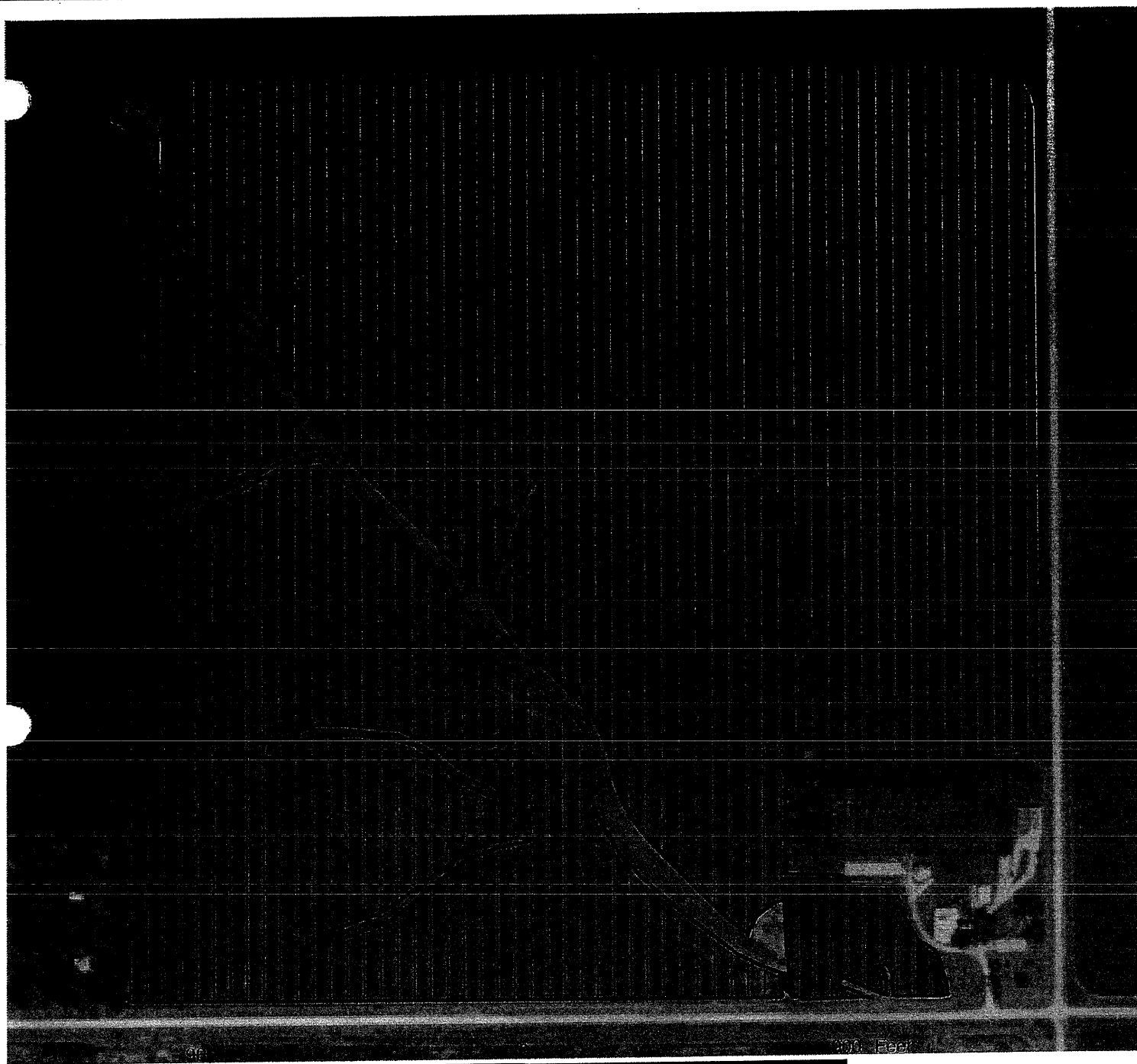
Table 6. Application rates that will be carried over to page 3

13	Planned manure application rate ^{dd}	gal/acre	1895	1895	1895	1895
----	---	----------	------	------	------	------

When applicable, manure application rates must be based on the P index value as follows:


- (0-2) N-based manure management.
- (>2-5) N-based manure management but P application rate cannot exceed two times the P removal rate of the crop schedule.
- (>5-10) Until December 31, 2008, P-based manure management while adopting practices to reduce P index to 5 or below.
- (>10) No manure application until practices are adopted to reduce P index to 5 or below

79811610P4000; 12 (141.73 ac.)

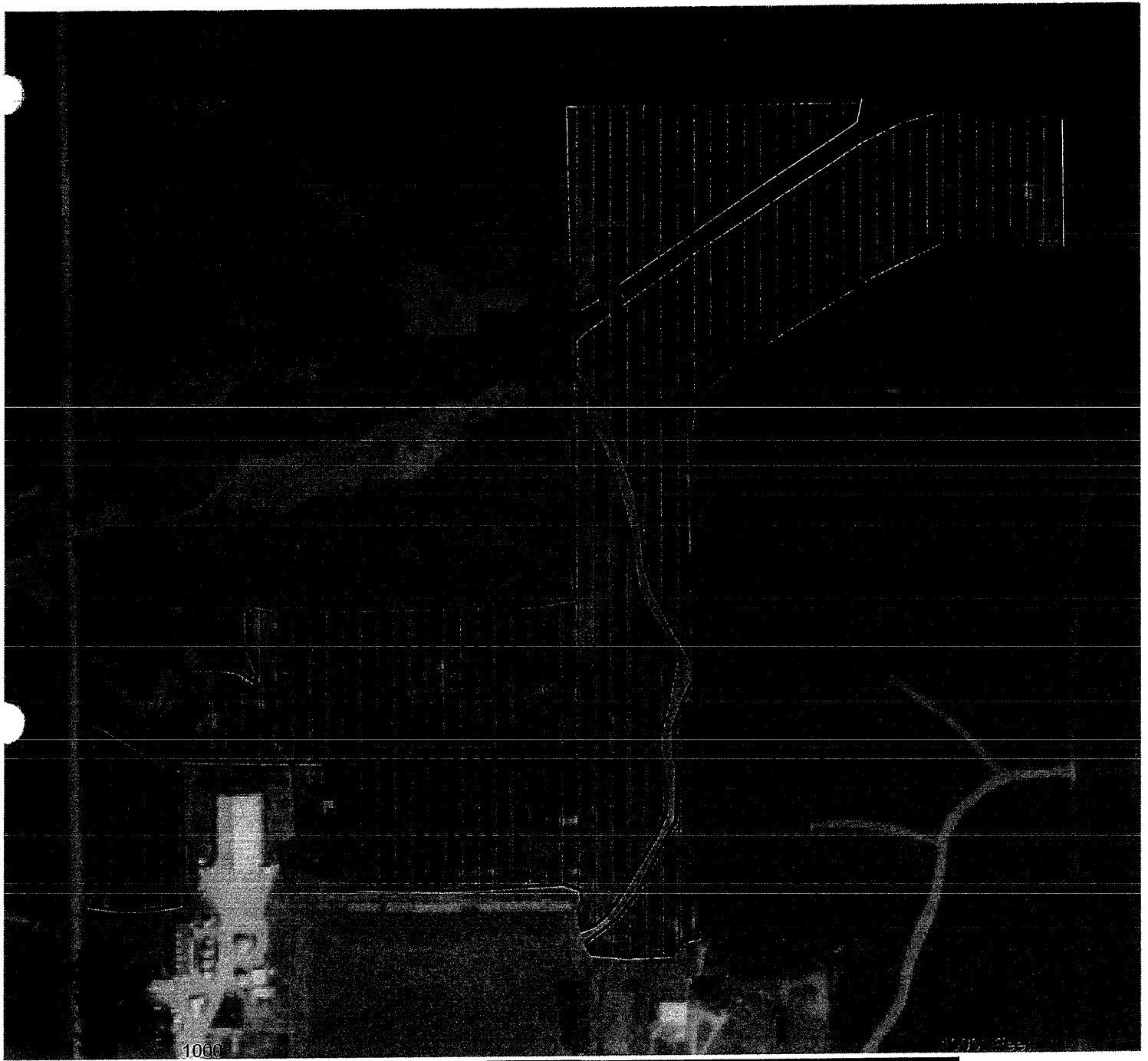


Date: Mar 21, 2012
Field Name: 79811610P4000; 12
Location: Poweshiek Co., Iowa, U.S.
Section 10, T81N, R16W
Farm Name: P 244
Client Name: P-Index
Total Acres: 141.73
Field Boundary Start Location:
Latitude: 41.83435305
Longitude: -92.69125031




 (141.7ac.) Field Boundary

79811614P3000B; 12 (41.33 ac.)



Date: Mar 21, 2012
Field Name: 79811614P3000B; 12
Location: Poweshiek Co., Iowa, U.S.
Section 14, T81N, R16W
Farm Name: P 244
Client Name: P-Index
Total Acres: 41.33
Field Boundary Start Location:
Latitude: 41.82131320
Longitude: -92.68831769



 (41.3ac.)Field Boundary

Maturing Management: Plan, Do, Check
Year by Year, Mature Management Builds Community

Instructions: Complete this form for each of the next four growing seasons, to demonstrate sufficient land base to apply manure over multiple crop years. If this page is identical for multiple years (e.g. every other year), submit only once for the identical years, and indicate which years the form represents. Footnotes are given on page

Crop year(s): 2013, 2014, 215, 2016

[illegible]

RUSLE2 Profile Erosion Calculation Record

Info: 79811610P3400

File: profiles\default

Inputs:

Location: Iowa\Poweshiek County
 Soil: 120B Tama silty clay loam, 2 to 5 percent slopes\Tama silty clay loam 95%
 Slope length (horiz): 200 ft
 Avg. slope steepness: 4.0 %

Management		Vegetation	Yield units	Yield (# of units)
CMZ 04\c.Other Local Mgt Records*CC South		Corn, grain	bushels	216.00

Contouring: a. rows up-and-down hill
 Strips/barriers: (none)
 Diversion/terrace, sediment basin: (none)
 Subsurface drainage: (none)
 Adjust res. burial level: Normal res. burial

Outputs:

T value: 5.0 t/ac/yr
 Soil loss erod. portion: 1.4 t/ac/yr
 Detachment on slope: 1.4 t/ac/yr
 Soil loss for cons. plan: 1.4 t/ac/yr
 Sediment delivery: 1.4 t/ac/yr

Crit. slope length: -- ft
 Surf. cover after planting: 66 %

Date	Operation	Vegetation	Surf. res. cov. after op, %
11/10/0	Manure injector, liquid low disturb.30 inch		95
11/15/0	Chisel, st. pt.		76
5/10/1	Cultivator, field 6-12 in sweeps		65
5/11/1	Planter, double disk opnr	Corn, grain	66
10/20/1	Harvest, killing crop 50pct standing stubble		91

Iowa Phosphorous Index

Credits: Iowa State University
USDA National Soil Tilth Laboratory
USDA Natural Resource Conservation Service

Field Number	Erosion				Runoff				Tile / Subsurface Recharge				Overall
	Gross Erosion	Sediment Trap Factor	SDR x Factor	Buffer Factor	Enrichment Factor	STP Factor	STP Factor	P App Factor	RCN Factor	STP Factor	STP Factor	Tile/Sub PI	P Index
10P3400 --	1.40	1.00	0.34	1.00	1.10	0.78	0.41	0.15	0.09	0.33	1.00	0.08	0.82

RUSLE2 Profile Erosion Calculation Record

Info: 79811610P4000

File: profiles\default

Inputs:

Location: Iowa\Poweshiek County
 Soil: 20D2 Killduff silty clay loam, 9 to 14 percent slopes, moderately eroded\Killduff silty clay loam moderately eroded 95%
 Slope length (horiz): 150 ft
 Avg. slope steepness: 10 %

Management	Vegetation	Yield units	Yield (# of units)
CMZ 041c.Other Local Mgt Records*CC South	Corn, grain	bushels	178.00

Contouring: b. absolute row grade 2 percent
 Strips/barriers: (none)
 Diversion/terrace, sediment basin: (none)
 Subsurface drainage: (none)
 Adjust res. burial level: Normal res. burial

Outputs:

T value: 5.0 t/ac/yr
 Soil loss erod. portion: 3.6 t/ac/yr
 Detachment on slope: 3.6 t/ac/yr
 Soil loss for cons. plan: 3.6 t/ac/yr
 Sediment delivery: 3.6 t/ac/yr

Crit. slope length: 150 ft
 Surf. cover after planting: 59 %

Date	Operation	Vegetation	Surf. res. cov. after op, %
11/10/0	Manure injector, liquid low disturb.30 inch		92
11/15/0	Chisel, st. pt.		69
5/10/1	Cultivator, field 6-12 in sweeps		58
5/11/1	Planter, double disk opnr	Corn, grain	59
10/20/1	Harvest, killing crop 50pct standing stubble		87

Iowa Phosphorous Index

Credits: Iowa State University
USDA National Soil Tilth Laboratory
USDA Natural Resource Conservation Service

Field Number	Erosion				Runoff				+ Tile / Subsurface Recharge				= Overall	
	Gross	Sediment	Buffer	Enrichment	STP	Erosion	RCN	STP	P App	Runoff	Flow	STP	Tile/Sub	P
	Erosion	x Trap Factor	x SDR	x Factor	x Factor	= PI	Factor	x (Factor	+ Factor	) = PI	Factor	x Factor	= PI	Index
10P4000 --	3.60	1.00	0.34	1.00	1.10	0.93	1.34	0.33	0.09	0.56	1.00	0.08	0.08	1.90



RUSLE2 Profile Erosion Calculation Record

Info: 79811614P1600

File: profiles\default

Inputs:

Location: Iowa\Poweshiek County

Soil: 120C2 Tama silty clay loam, 5 to 9 percent slopes, moderately eroded\Tama silty clay loam moderately eroded 90%

Slope length (horiz): 180 ft

Avg. slope steepness: 6.0 %

Management	Vegetation	Yield units	Yield (# of units)
CMZ 041c.Other Local Mgt Records*CC South	Corn, grain	bushels	193.00

Contouring: a. rows up-and-down hill

Strips/barriers: (none)

Diversion/terrace, sediment basin: (none)

Subsurface drainage: (none)

Adjust res. burial level: Normal res. burial

Outputs:

T value: 5.0 t/ac/yr

Soil loss erod. portion: 2.8 t/ac/yr

Detachment on slope: 2.8 t/ac/yr

Soil loss for cons. plan: 2.8 t/ac/yr

Sediment delivery: 2.8 t/ac/yr

Crit. slope length: -- ft

Surf. cover after planting: 62 %

Date	Operation	Vegetation	Surf. res. cov. after op, %
11/10/0	Manure injector, liquid low disturb.30 inch		94
11/15/0	Chisel, st. pt.		72
5/10/1	Cultivator, field 6-12 in sweeps		61
5/11/1	Planter, double disk opnr	Corn, grain	62
10/20/1	Harvest, killing crop 50pct standing stubble		89

Iowa Phosphorous Index

Credits: Iowa State University
USDA National Soil Tilth Laboratory
USDA Natural Resource Conservation Service

Field Number	Gross Erosion	Sediment Trap Factor	SDR x Factor	Erosion Buffer Factor	Enrichment x Factor	STP x Factor	Runoff STP Factor	RCN Factor x	Runoff P App Factor	STP Factor +	Runoff PI	+ Tile / Subsurface Recharge Flow STP Factor x	Tile/Sub PI	= Overall P Index
14P1600 --	2.80	1.00	0.42	1.00	1.10	0.79	1.40	1.40	0.09	0.16	0.34	1.00	0.08	1.45



RUSLE2 Profile Erosion Calculation Record

Info: 79811614P3000B

File: profiles\default

Inputs:

Location: Iowa\Poweshiek County
Soil: 24E Shelby loam, 14 to 18 percent slopes\Shelby loam 85%
Slope length (horiz): 97 ft
Avg. slope steepness: 16 %

Management	Vegetation	Yield units	Yield (# of units)
CMZ 04\c.Other Local Mgt Records*CC South	Corn, grain	bushels	144.00

Contouring: b. absolute row grade 2 percent
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

Outputs:

T value: 5.0 t/ac/yr
Soil loss erod. portion: 6.8 t/ac/yr
Detachment on slope: 6.8 t/ac/yr
Soil loss for cons. plan: 6.8 t/ac/yr
Sediment delivery: 6.8 t/ac/yr

Crit. slope length: 97 ft
Surf. cover after planting: 52 %

Date	Operation	Vegetation	Surf. res. cov. after op, %
1/1/0/0	Manure injector, liquid low disturb.30 inch		88
1/1/5/0	Chisel, st. pt.		62
5/10/1	Cultivator, field 6-12 in sweeps		51
5/11/1	Planter, double disk opnr	Corn, grain	52
10/20/1	Harvest, killing crop 50pct standing stubble		81

Iowa Phosphorous Index

Credits: Iowa State University
USDA National Soil Tilth Laboratory
USDA Natural Resource Conservation Service

Field Number	Erosion							+	Runoff				+	Tile / Subsurface Recharge			=	Overall	
	Gross Erosion	Sediment Trap Factor	SDR x Factor	Buffer Factor	Enrichment x Factor	STP Factor	Erosion PI		RCN Factor x (	STP Factor +	P App Factor	Runoff PI		Flow Factor	STP Factor x	Tile/Sub PI		P Index
14P3000B --	6.80	1.00	0.54	0.70	1.20	0.86	2.64		1.34	0.24	0.09	0.44		1.00	0.08	0.08		3.16	



RUSLE2 Profile Erosion Calculation Record

Info: 79811615P1000

File: profiles\default

Inputs:

Location: Iowa\Poweshiek County
Soil: 20C2 Killduff silty clay loam, 5 to 9 percent slopes, moderately eroded\Killduff silty clay loam moderately eroded 95%
Slope length (horiz): 180 ft
Avg. slope steepness: 6.0 %

Management		Vegetation	Yield units	Yield (# of units)
CMZ 04\c.Other Local Mgt Records*CC South		Corn, grain	bushels	189.00

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

Outputs:

T value: 5.0 t/ac/yr
Soil loss erod. portion: 2.9 t/ac/yr
Detachment on slope: 2.9 t/ac/yr
Soil loss for cons. plan: 2.9 t/ac/yr
Sediment delivery: 2.9 t/ac/yr

Crit. slope length: -- ft
Surf. cover after planting: 61 %

Date	Operation	Vegetation	Surf. res. cov. after op, %
11/10/0	Manure injector, liquid low disturb.30 inch		93
11/15/0	Chisel, st. pt.		71
5/10/1	Cultivator, field 6-12 in sweeps		60
5/11/1	Planter, double disk opnr	Corn, grain	61
10/20/1	Harvest, killing crop 50pct standing stubble		88



Credits: Iowa State University
USDA National Soil Tilth Laboratory
USDA Natural Resource Conservation Service

Field Number	Erosion						Runoff				+ Tile / Subsurface Recharge			Overall P Index							
	Gross Erosion	Sediment		Buffer	Enrichment	STP Factor	RCN Factor	STP		P App Factor x (Factor + Factor)	Runoff PI	Flow Factor	STP Factor x Factor		Tile/Sub PI						
		x Trap	Factor					x	Factor							x	Factor				
																		x	Factor	x	Factor
15P1000 ~	2.90	1.00	0.38	0.70	1.20	0.83	0.78	1.62	0.21	0.09	0.48	1.00	0.08	0.08	1.34						

RUSLE2 Profile Erosion Calculation Record

Info: 79811615P2000

File: profiles\default

Inputs:

Location: Iowa\Poweshiek County
 Soil: 120C2 Tama silty clay loam, 5 to 9 percent slopes, moderately eroded\Tama silty clay loam moderately eroded 90%
 Slope length (horiz): 180 ft
 Avg. slope steepness: 6.0 %

Management		Vegetation	Yield units	Yield (# of units)
CMZ 04\c.Other Local Mgt Records*CC South		Corn, grain	bushels	193.00

Contouring: a. rows up-and-down hill
 Strips/barriers: (none)
 Diversion/terrace, sediment basin: (none)
 Subsurface drainage: (none)
 Adjust res. burial level: Normal res. burial

Outputs:

T value: 5.0 t/ac/yr
 Soil loss erod. portion: 2.8 t/ac/yr
 Detachment on slope: 2.8 t/ac/yr
 Soil loss for cons. plan: 2.8 t/ac/yr
 Sediment delivery: 2.8 t/ac/yr

Crit. slope length: -- ft
 Surf. cover after planting: 62 %

Date	Operation	Vegetation	Surf. res. cov. after op, %
11/10/0	Manure injector, liquid low disturb.30 inch		94
11/15/0	Chisel, st. pt.		72
5/10/1	Cultivator, field 6-12 in sweeps		61
5/11/1	Planter, double disk opnr	Corn, grain	62
10/20/1	Harvest, killing crop 50pct standing stubble		89



Credits:
Iowa State University
USDA National Soil Tilth Laboratory
USDA Natural Resource Conservation Service

Field Number	Erosion					Runoff				+ Tile / Subsurface Recharge			Overall P Index
	Gross Erosion		Sediment		STP Factor x	RCN Factor x (	STP Factor +	P App Factor) =	Flow Factor x	STP Factor	Tile/Sub Tile PI	
	x	Trap Factor	x	Buffer Factor								Enrichment Factor x	
15P2000 --	2.80	1.00	0.37	1.00	1.10	1.62	0.22	0.09	0.50	1.00	0.08	1.53	

RUSLE2 Profile Erosion Calculation Record

Info: 79811615P4000

File: profiles\default

Inputs:

Location: Iowa\Poweshiek County

Soil: 120D2 Tama silty clay loam, 9 to 14 percent slopes, moderately eroded\Tama silty clay loam moderately eroded 90%

Slope length (horiz): 150 ft

Avg. slope steepness: 10 %

Management			Vegetation	Yield t/ha	Yield (# of units)
CMZ 04\c.Other Local Mgt Records*CC South	Corn, grain	bushels			
179.00					

Contouring: b. absolute row grade 2 percent

Strips/barriers: (none)

Diversion/terrace, sediment basin: (none)

Subsurface drainage: (none)

Adjust res. burial level: Normal res. burial

Outputs:

T value: 5.0 t/ac/yr

Soil loss erod. portion: 3.6 t/ac/yr

Detachment on slope: 3.6 t/ac/yr

Soil loss for cons. plan: 3.6 t/ac/yr

Sediment delivery: 3.6 t/ac/yr

Crit. slope length: 150 ft

Surf. cover after planting: 59 %

Date	Operation	Vegetation	Surf. res. cov. after op, %
11/10/0	Manure injector, liquid low disturb. 30 inch		92
11/15/0	Chisel, st. pt.		70
5/10/1	Cultivator, field 6-12 in sweeps		58
5/11/1	Planter, double disk opnr	Corn, grain	59
10/20/1	Harvest, killing crop 50pct standing stubble		87



Credits: Iowa State University
USDA National Soil Tilth Laboratory
USDA Natural Resource Conservation Service

Field Number	Erosion					Runoff			+ Tile / Subsurface Recharge			= Overall P Index				
	Gross Erosion		Sediment		Buffer	Enrichment	STP	RCN	STP	Flow	STP		Tile/Sub			
	x	Trap Factor	x	Trap Factor	x	Factor	x	Factor	x	Factor	x		Factor			
	=	PI	=	PI	=	PI	=	PI	=	PI	=		PI			
15P4000 --	3.60	1.00	0.45	1.00	1.00	1.10	0.79	1.41	1.34	0.15	0.09	0.32	1.00	0.08	0.08	1.81

RUSLE2 Profile Erosion Calculation Record

Info: 79811623P2000

File: profiles/default

Inputs:

Location: lowa\Poweshiek County
 Soil: 20C2 Killduff silty clay loam, 5 to 9 percent slopes, moderately eroded\Killduff silty clay loam moderately eroded 95%
 Slope length (horiz): 180 ft
 Avg. slope steepness: 6.0 %

Management		Vegetation	Yield units	Yield (# of units)
CMZ 04lc	Other Local Mgt Records*CC South	Corn, grain	bushels	189.00

Contouring: a. rows up-and-down hill
 Strips/barriers: (none)
 Diversion/terrace, sediment basin: (none)
 Subsurface drainage: (none)
 Adjust res. burial level: Normal res. burial

Outputs:

T value: 5.0 t/ac/yr
 Soil loss erod. portion: 2.9 t/ac/yr
 Detachment on slope: 2.9 t/ac/yr
 Soil loss for cons. plan: 2.9 t/ac/yr
 Sediment delivery: 2.9 t/ac/yr

Crit. slope length: -- ft
 Surf. cover after planting: 61 %

Date	Operation	Vegetation	Surf. res. cov. after op, %
11/10/0	Manure injector, liquid low disturb.30 inch		93
11/15/0	Chisel, st. pt.		71
5/10/1	Cultivator, field 6-12 in sweeps		60
5/11/1	Planter, double disk opnr	Corn, grain	61
10/20/1	Harvest, killing crop 50pct standing stubble		88

Iowa Phosphorous Index

Credits: Iowa State University
USDA National Soil Tilth Laboratory
USDA Natural Resource Conservation Service

Field Number	Gross Erosion	Sediment Trap Factor	SDR x Factor	Buffer Factor	Enrichment Factor x	STP Factor x	Erosion PI	+	Runoff STP Factor +	P App Factor) =	Runoff PI	+	Tile / Subsurface Recharge Flow Factor x	STP Factor =	Tile/Sub PI	=	Overall P Index
23P2000 --	2.90	1.00	0.42	1.00	1.10	0.79	1.06		0.16	0.09	0.35		1.00	0.08	0.08		1.48

Manure Application Lease/Fertilizer Consent Form

I Lda Simmons give Prestage Farms, LLC. permission to apply
(Land Owner)

manure from P244 & P301 during calendar year 2009 and any succeeding
site
year until canceled by written notice on:

field	acres	legal description (1/4 section, township, range, county)
ELuttmann	80	NE 1/4, Sec. 14 T81N R16W Chester Twp., Poweshiek Co.

FSA Tract # (if new field) _____

I agree to release any FSA or NRCS information needed to complete my
Required Nutrient Management Plans to the Site Owner and/or Nutrient Plan Writer.

I as land owner, or operator, agree that I will apply any additional commercial or organic fertilizers according to current DNR Manure Management Plan requirements specified for the site listed above. I plan to apply 0 pounds of Commercial Nitrogen Fertilizer and 0 pounds of Commercial Phosphorus Fertilizer to this field (described above), which is 0 pounds of -- (type of fertilizer). This application rate will remain in effect for calendar year 2009, and each succeeding year until amended or canceled by written notice.

X Lda Simmons
(Land Owner)

[Signature]
(Land Tenant/Operator)

Prestage Farms of Iowa, Inc.
[Signature]
(Site Owner)

Manure Application Lease/Fertilizer Consent Form

I Hafkey Farms, Inc. give Prestage Farms, LLC permission to apply
(Land Owner/Operator)

manure from PI-244 & PI-301 during calendar year 2009 and any succeeding
site
year until canceled by written notice on:

Field	Acres	Legal description
Field 2	86.1	S ½ of SW ¼ , & NE ¼ of SW ¼ , 14, T81, R16, Chester, Poweshiek
Field 3	145.3	NW ¼ , 23, T81, R16, Chester, Poweshiek
Field 4	179.7	SE ¼ , & SE ¼ of NE ¼ , 15, 81, 16, Chester, Poweshiek

FSA Tract # (if new field) _____

I agree to release any FSA or NRCS information needed to complete my
Required Nutrient Management Plans to the Site Owner and/or Nutrient Plan Writer.

I as land owner, or operator, agree that I will apply any additional commercial or organic
fertilizers according to current DNR Manure Management Plan requirements specified
for the site listed above. I plan to apply 0 pounds of Commercial Nitrogen
Fertilizer and 0 pounds of Commercial Phosphorus Fertilizer to this field
(described above), which is 0 pounds of -- (type of
fertilizer). This application rate will remain in effect for calendar year 2008, and each
succeeding year until amended or canceled by written notice.

Hafkey Farms, Inc.
(Land Owner)
Prestage Farms by
(Site Owner)

Chad Hafkey
(Land Tenant/Operator)
3675 20th St
Grinnell, IA 50112

Prestage Farms Manure Application Lease/Fertilizer Consent Form

I, Hafkey Farms Inc give Prestage Farms of Iowa, LLC permission to apply manure from
GRANTOR (Land Owner/Tenant)
from P244 & P301 during calendar year 2012, and any succeeding year until cancelled
Site
by written notice, on the fields listed below:

Field Name	FSA#	ACRES	LEGAL DESCRIPTION
Edward Peak Trust		114	W 3/4 of the NW1/4 of section 15 Chester Twp. Poweshiek Co.
Gnau Family Trust		160	E1/4 of the NW1/4 and the N1/2 of the NE1/4 and the SW1/4 of the NE1/4 of section 15 Chester Twp. Poweshiek Co.
Marylou Mikel		168	SE1/4 of section 10 and the SE1/8 of the SW1/4 of section 10 Chester Twp. Poweshiek Co.

I agree to release any FSA or NRCS information needed to complete a Manure Management Plan (MMP) or Nutrient Management Plan (NMP) for the above listed field(s) to the site owner and/or nutrient plan writer.

Application Terms & Conditions:

Manure shall only be applied to above described property at such times that application does not interfere with Grantor's farming operation. Grantor agrees to pay the actual application costs for manure applied pursuant to this agreement.

This manure application agreement shall remain in effect for calendar year 2012, and each succeeding year until amended or cancelled by written notice. Written notice for amendments or cancellation must be received by May 1.

Date: 3-12-12

Hafkey Farms Inc
Land Owner/Tenant Name

Steve Crawford
Prestage Farms of Iowa Representative

Hafkey Farms Inc. by [Signature]
Signed

Steve Crawford
Signed

Manure Management Plan Form

Appendix A8: Iowa Ag Statistics County Corn and Soybean Yield Averages, 2006-2010

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County	Corn			Soybeans		
	5-yr. avg. yield (bu./a)	5-yr. ave. yield + 10% (bu./a)	Avg. yield of 4 highest (bu./a)	5-yr. avg. yield (bu./a)	5-yr. ave. yield + 10% (bu./a)	Avg. yield of 4 highest (bu./a)
Adair	163	179	169	50.0	55.0	51.1
Adams	153	168	156	46.9	51.6	48.9
Allamakee	172	189	173	47.4	52.1	48.8
Appanoose	131	145	145	40.9	45.0	43.4
Audubon	173	191	177	53.0	58.3	53.7
Benton	179	197	181	52.8	58.0	53.2
Black Hawk	174	192	177	51.2	56.3	52.1
Boone	173	191	176	49.4	54.3	50.7
Bremer	178	196	182	51.0	56.1	52.5
Buchanan	172	189	173	48.9	53.7	50.1
Buena Vista	171	188	178	51.0	56.1	51.8
Butler	178	196	179	50.8	55.9	51.7
Calhoun	173	191	175	48.7	53.6	49.6
Carroll	179	197	183	51.4	56.6	52.0
Cass	168	185	172	51.3	56.4	52.6
Cedar	183	201	185	51.7	56.9	52.5
Cerro Gordo	170	188	172	48.7	53.6	49.7
Cherokee	179	197	188	55.0	60.5	55.3
Chickasaw	171	188	174	49.2	54.1	50.2
Clarke	126	139	137	39.0	42.9	42.1
Clay	172	189	175	50.2	55.2	50.8
Clayton	174	191	174	52.4	57.6	53.4
Clinton	180	198	182	50.8	55.9	51.7
Crawford	176	194	186	52.8	58.1	53.5
Dallas	166	183	172	50.9	55.9	51.8
Davis	138	152	151	43.2	47.6	44.9
Decatur	133	146	143	42.7	47.0	45.5
Delaware	174	192	178	52.4	57.7	53.9
Des Moines	165	181	178	49.6	54.6	50.3
Dickinson	172	189	175	48.6	53.4	49.7
Dubuque	176	193	180	51.9	57.1	53.8
Emmet	177	194	179	49.8	54.7	51.0
Fayette	168	184	170	48.8	53.7	50.3
Floyd	172	189	173	49.5	54.5	50.8
Franklin	171	189	173	49.6	54.6	50.8
Fremont	157	173	160	48.8	53.7	50.6
Greene	173	190	177	49.8	54.8	50.6
Grundy	181	199	182	55.4	60.9	56.6
Guthrie	161	177	166	47.4	52.2	48.3
Hamilton	172	189	176	47.9	52.7	48.7
Hancock	176	194	178	50.9	56.0	51.1
Hardin	174	191	178	52.0	57.2	53.5

Manure Management Plan Form

Appendix A8: Iowa Ag Statistics County Corn and Soybean Yield Averages, 2006-2010

(continued)

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County	Corn			Soybeans		
	5-yr. avg. yield (bu./a)	5-yr. ave. yield + 10% (bu./a)	Avg. yield of 4 highest (bu./a)	5-yr. avg. yield (bu./a)	5-yr. ave. yield + 10% (bu./a)	Avg. yield of 4 highest (bu./a)
Harrison	167	184	174	46.7	51.4	48.4
Henry	159	175	171	50.0	55.0	50.5
Howard	172	190	174	47.8	52.5	48.8
Humboldt	175	193	181	50.7	55.7	51.8
Ida	178	196	191	51.0	56.1	52.1
Iowa	174	191	178	52.1	57.4	53.4
Jackson	167	183	169	50.9	56.0	52.1
Jasper	174	192	180	53.6	59.0	55.0
Jefferson	149	164	162	46.6	51.3	47.8
Johnson	167	184	171	48.9	53.8	49.7
Jones	177	194	179	50.8	55.9	51.9
Keokuk	156	171	167	48.7	53.6	49.6
Kossuth	181	199	183	51.8	57.0	52.8
Lee	153	169	166	46.7	51.4	47.8
Linn	177	195	179	50.3	55.4	51.2
Louisa	161	177	170	48.2	53.1	48.9
Lucas	121	133	133	39.0	42.9	41.7
Lyon	181	199	186	53.8	59.2	54.6
Madison	156	172	164	48.8	53.6	50.5
Mahaska	165	181	176	51.4	56.5	52.4
Marion	149	164	158	48.7	53.5	49.6
Marshall	183	201	183	55.7	61.2	56.8
Mills	163	180	167	49.8	54.8	51.9
Mitchell	177	195	179	50.1	55.2	51.4
Monona	160	176	173	48.3	53.1	49.3
Monroe	134	147	148	43.0	47.3	45.4
Montgomery	164	180	168	49.2	54.2	52.1
Muscatine	165	182	170	48.8	53.7	49.9
O'Brien	184	202	188	54.3	59.8	54.7
Osceola	180	198	184	51.5	56.6	52.4
Page	151	166	155	47.6	52.4	50.2
Palo Alto	175	192	177	49.7	54.7	50.0
Plymouth	173	190	182	52.6	57.9	53.4
Pocahontas	175	193	177	50.3	55.4	51.2
Polk	164	181	171	49.2	54.1	50.4
Pottawattamie	174	192	177	50.4	55.5	52.7
Poweshiek	175	192	180	53.8	59.2	55.2
Ringgold	125	138	133	40.8	44.9	44.4
Sac	173	191	183	51.2	56.4	52.3
Scott	175	192	180	52.9	58.2	53.4
Shelby	181	199	184	52.8	58.1	53.9
Sioux	183	201	189	55.3	60.8	55.6

Manure Management Plan Form

Appendix A8: Iowa Ag Statistics County Corn and Soybean Yield Averages, 2006-2010

(continued)

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County	Corn			Soybeans		
	5-yr. avg. yield (bu./a)	5-yr. ave. yield + 10% (bu./a)	Avg. yield of 4 highest (bu./a)	5-yr. avg. yield (bu./a)	5-yr. ave. yield + 10% (bu./a)	Avg. yield of 4 highest (bu./a)
Story	173	190	176	50.6	55.6	51.6
Tama	177	195	178	53.9	59.3	55.0
Taylor	138	151	142	42.8	47.1	45.0
Union	145	159	153	47.1	51.8	49.4
Van Buren	142	156	155	45.6	50.1	46.7
Wapello	146	160	157	45.5	50.1	46.3
Warren	144	159	155	49.5	54.4	51.5
Washington	169	185	178	50.1	55.1	50.9
Wayne	123	135	136	39.7	43.7	42.0
Webster	174	191	176	48.3	53.1	49.0
Winnebago	180	198	182	51.2	56.3	52.4
Winneshiek	176	193	177	49.0	53.9	50.1
Woodbury	164	180	172	47.8	52.5	48.4
Worth	179	197	181	48.3	53.1	49.7
Wright	172	189	177	48.8	53.7	50.6

Using Manure Nutrients for Crop Production

Nutrients in Animal Manure

Manure can supply nutrients required by crops and replenish nutrients removed from soil by crop harvest. Since manure contains multiple nutrients, applications should consider not only what is needed for the crop to be grown but also how the ratio of nutrients in manure could affect soil test levels. This ensures adequate nutrient supply and reduces potential for over- or under-application and subsequent buildup or depletion in the soil. Good manure nutrient management should consider short-term and long-term impacts on crop nutrient supply and soil resources.

Manure has characteristics that make nutrient management different and sometimes more complicated than fertilizer. These include a mix of organic and inorganic nutrient forms; variation in nutrient concentration and forms; variation in dry matter and resultant handling as a liquid or solid; and relatively low nutrient concentration requiring large application volumes. Since manure nutrient composition can vary significantly, sampling and laboratory analysis are always needed, while with fertilizer nutrient concentrations are provided at a guaranteed analysis.

The manure nutrient concentration varies considerably between animal species; dietary options; animal genetics; animal performance; production management and facility type; and collection, bedding, storage, handling, and agitation for land application. Use of average or "book" nutrient values can be helpful for designing a new facility and creating manure management plans but is not very helpful in determining specific manure nutrient supply or application rates due to wide variation in nutrient concentrations between production facilities. For example, a recent sampling across swine finishing facilities found a range in total N from 32 to 79 lb N/1,000 gal, P from 17 to 54 lb P₂O₅/1,000 gal, and K from 23 to 48 lb K₂O/1,000 gal. A similar or larger range can be found with other manure types. Nutrient analyses often vary greatly as storage facilities are emptied or manure is stockpiled, and also among multiple samples collected from loads during land application. Therefore, collecting multiple manure samples and maintaining a history of analysis results will improve use of manure nutrients.

For determining manure application rates and equating to crop fertilization requirements, it is most helpful if manure analyses give N, P₂O₅, and K₂O based on an as-received or wet basis in lb per ton or lb per 1,000 gal units. It is beyond the scope of this publication to give detailed manure sampling and laboratory analysis

recommendations. Those can be found in the extension materials listed on page 7. If manure analyses are provided from the laboratory in other units, they must be converted to these units. See the ISU Extension manure sampling publication for appropriate conversion factors. If manure average nutrient values or methods to estimate manure nutrient concentrations based on excretion are of interest or needed for planning purposes, those can be found in the Midwest Plan Service bulletins listed on page 7.

Manure Nutrient Availability for Crops

Nutrient management guidelines use the words "manure nutrient availability" when suggesting manure applications to supply nutrients needed by crops. However, the meaning of "availability" for manure nutrients often is not clear or its use not consistent. Available is defined as present or ready for immediate use, or present in such chemical or physical form as to be usable (as by a plant). The main reasoning for using the term "available" in describing manure nutrients is that some portions are in forms that cannot be used by plants immediately upon application to soil and have to be converted to a form that plants can take up. The term "available" is not typically applied to fertilizers because most include chemical forms that plants can take up or are quickly converted upon application to soil. According to this definition, most inorganic fertilizers contain basically

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100 percent crop-available nutrients. For example, anhydrous ammonia dissolves in water and rapidly changes to ammonium, urea hydrolyzes to ammonium within a few days, and ammonium is further transformed to nitrate by soil microorganisms. Monodiammonium phosphate (MAP) and diammonium phosphate (DAP) are highly soluble in water and dissolve to ammonium and orthophosphate. Potassium chloride (KCl, potash) dissolves in water to potassium (K⁺) and chloride (Cl⁻) ions. Both orthophosphate and K ions are taken up by plants. Because all K contained in manure is in the K⁺ ionic form, manure K is readily crop available in all manure sources.

For manure N and P, there is usually a mix of organic and inorganic materials that varies among manure

sources, production systems, bedding, storage, and handling. This variety in forms of N and P in manure contributes to greater uncertainty in manure nutrient management compared with fertilizers. The ratio of inorganic (mainly ammonium) and organic N varies considerably with the manure source. This was shown, for example, by on-farm research that included manure sampling and analysis from swine and poultry operations. The fraction of total N as ammonium N was almost 100 percent for swine manure from the liquid portion of anaerobic lagoons, 85 to 100 percent (average 94 percent) for liquid swine manure from under-building pits or storage tanks, and 10 to 40 percent (average 20 percent) for solid poultry manure. The large ammonium-N concentration and organic-N fraction that is easily mineralized after applica-

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tion to soil explain why N in liquid swine manure is considered "highly" crop available and almost comparable to fertilizer N. Other manures have lower ammonium-N concentrations and greater (and tougher to degrade) organic materials due to bedding and feed materials. Considerable P in swine manure is orthophosphate and calcium phosphate compounds (derived both from feed and mineral supplements added to rations) that are soluble or dissolve quickly once applied to soil. The test is organic P, which varies greatly in complexity and reaction in soil. Testing manure for ammonium-N or water-soluble N can be a way of estimating immediately available N. Unfortunately, a similarly useful test does not exist for P. Therefore, the availability estimate for manure N and P can be, and often is, less than 100 percent of total N and P.

Manure Nutrient Supply

There is a clear difference between crop availability of nutrients in fertilizer or manure and season-long supply of nutrients. Significant amounts of plant usable forms of nutrients in both fertilizer and manure might be lost and become unavailable to crops after application. For example, N can be lost through processes such as leaching, volatilization, or denitrification while P can be lost through erosion and surface runoff. Also, these nutrients can be converted for short or long periods of time into forms not usable by plants through processes such as immobilization to organic materials for N and

retention by soil mineral constituents for P. Nutrient loss issues are not as pertinent for P and K as for N in Iowa soils as long as there is little soil erosion and surface runoff.

The immediate or long-term fate of plant usable nutrients in soil can be similar for manure and fertilizer. However, variation in manure nutrient concentration, application rate, and application distribution affect nutrient supply and contribute to increased uncertainty with manure management. Application rate and distribution uncertainties affect all applied nutrient sources but are more difficult to manage with manure than with fertilizer. With careful manure sampling, pre-application nutrient analysis, study of nutrient history, and calibration of application equipment, reasonable manure nutrient application rates can be achieved. Due to material characteristics, and sampling and analysis variability, field distribution and application rate variability often is greater for dry manure sources.

These supply issues can be important for N, P, and K, although typically are of greater concern with N. There are several reasons, including manure usually is applied for corn production where N supply is critical, many Iowa soils have optimum or higher P and K test levels where need for and response to P and K is much less than with N, and crop deficiency symptoms and yield loss resulting from nutrient supply problems are more obvious for N.

Manure nutrient loss, application rate, and distribution uncertainties usually are not included in crop nutrient availability estimates. Instead, they are handled by suggested management practices. Not all published guidelines are consistent in this regard and, therefore, suggested crop nutrient availabilities do vary between states and regions. In this publication, use of "availability" refers to manure nutrients potentially available for plant uptake (with no losses) by the first crop after application or beyond, and percent nutrient availability values provided correlate to those for commonly used fertilizers. The guidelines in this publication assume supply issues are handled in the best way possible as is done with fertilizers. It is important to understand that for successful manure nutrient management, in many instances supply issues are as, or more, critical than estimates of nutrient availability.

Improving crop nutrient supply with manure can be achieved by understanding the issues related to manure nutrient analysis, application rate, application distribution, and the benefits and risks related to management practices such as application timing and placement that influence potential losses. Additionally, use of available tools to determine initial soil nutrient levels and adjust application rates can help provide for adequate season-long nutrient supply when either manure or fertilizer is used. These tools include commonly used pre-plant soil testing for P and K, estimates of N application rate need based on response trial data (such as

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the Corn Nitrogen Rate Calculator), and tools to help determine need for additional N after planting corn such as the late-spring soil nitrate test and in-season crop sensing for N stress.

Manure Nutrient Application Recommendations

To determine manure application rates, the following information is required: needed crop nutrient fertilization rate for N, P, K, or other deficient nutrients; manure type; nutrient analysis; nutrient crop availability; and method of application. Nutrient recommendations for crops are provided in other Iowa State University Extension publications and are not repeated here (see list on page 7).

Once the needed nutrient application rate is determined, the manure rate to supply crop available nutrients is calculated based on the specific manure source being used.

Manure Nutrient Availability Values

Many of the manure N, P, and K crop availability estimates listed in Table 1 are derived from research trials conducted in Iowa. However, when local research is lacking, applicable information was taken from research conducted in other states. For manure sources not listed in the table, values based on manure with similar characteristics can provide a reasonable estimate.

An additional consideration is what portion of the needed fertilization will be supplied from manure—to meet the full crop nutrient requirement, or a partial requirement from manure and the remaining from fertilizer. This is an important consideration because manure contains multiple nutrients and a manure rate to supply the most deficient nutrient can over-supply other nutrients. Also, manure application to meet the least deficient or most environmentally restrictive nutrient application can result in under-supply of other nutrients.

First-Year Availability Estimates

Table 1. First-year nutrient availability for different animal manure sources.

Manure Source	Nitrogen	Phosphorus	Potassium
Beef cattle (solid or liquid)	50-60	60-100	95-100
Dairy (solid or liquid)	30-40	60-100	95-100
Liquid swine (anaerobic)	90-100	90-100	95-100
Liquid swine (aerobic lagoons)	90-100	90-100	95-100
Poultry (all species)	50-60	80-100	95-100

The estimates of N availability are provided for manure from beef cattle and dairy cattle, and for manure from swine. The estimates of P and K availability are provided for manure from beef cattle and dairy cattle. The estimates of N availability are provided for manure from beef cattle and dairy cattle. The estimates of P and K availability are provided for manure from beef cattle and dairy cattle.

The ranges for P and K availability are provided to account for variability in sampling and analysis, and for needed P and K supply with different soil test levels. A small portion of manure P and K is lost through volatilization and denitrification, but P is generally available to crops. Use lower than K availability values for soils with high P levels and low K levels, and use higher values for soils with low P levels and high K levels. The optimal soil test category, when the probability of a yield response is small, is used when manure is applied to maintain soil test P and K in the optimal soil test category.

Values apply for the liquid portion of swine manure in lagoons. When used, availability will be less and difficult to estimate with solid solids.

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Second- and Third-Year Availability Estimates

While manure N may become crop available over multiple years for some sources, there should not be an expectation that all of the manure N will eventually become crop available. This happens because some of the N is in difficult-to-degrade organic forms (recalcitrant) and will become part of the soil organic matter. For some manure sources, such as with bedded systems, not all of the manure N should be accounted for in manure plans over multiple years and the first-, second-, or third-year availability may not add up to 100 percent.

Animal manure that has considerable organic material can have some residual N availability in the second or third year after application. The second-year N availability estimate for beef cattle and dairy manure is 10 percent, and dairy manure is 10 percent.

Adjusting for Manure Nitrogen Volatilization

The estimates for manure N availability in Table 1 do not consider potential volatile N losses during or after application. Losses are from various volatile N compounds in manure, such as ammonia, and ammonia that is produced when urea, uric acid, or other compounds convert to ammonium. These are similar losses that can occur from some N fertilizers such as anhydrous ammonia, urea, and urea-ammonium nitrate (UAN) solutions. If manure is left on the soil surface, losses may occur until N is moved into the soil with rainfall or incorporated with tillage. Many factors affect the rate and amount of volatile loss, such as temperature, humidity, rainfall, soil moisture, soil pH, surface residue cover, and days to incorporation. Volatile losses at or after application often are difficult to predict accurately. However, losses can be significant, and, therefore, it is important to make an adjustment for volatile N losses from applied manure and for manure management planning purposes.

Values given in Table 2 provide guidance on potential volatile losses. The correction factors in Table 2 do not account for N losses during storage and handling (time from excretion to sampling for analysis) and assume a reasonable time period from sampling to land application so that the manure analysis represents the manure being applied. To estimate manure N remaining in soil after application, multiply the applied manure N rate by the appropriate correction factor.

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Table 2. Correction factors to account for N volatilization losses during and after land application of animal manure.

Application Method	Incorporation	Volatilization Correction Factor
Direct injection		0.95-1.00
Broadcast (deepbed)	Immediate incorporation	0.95-0.99
Broadcast (liquid)	No incorporation	0.75-0.90
Broadcast (solid)	No incorporation	0.70-0.85
Irrigation	No incorporation	0.50-0.75
Adjusted from Midwest Plant Service, Iowa State University, Ames, Iowa, and with permission of the National Volatilization N Study.		

Considerations for Time of Application

The time of application influences nutrient availability and potential manure and nutrient loss from soil. Fall applications allow more time for organic N and P portions of manure to mineralize so they are available for plant uptake the next crop season. This is more important for N in manures with high organic matter content, such as bedded systems. Iowa research has shown that fall versus springtime P and K application usually is not an agronomic issue for fertilizers on manure. The increased time for organic N mineralization with fall application also allows for nitrification

of ammonium and therefore more potential nitrate loss through leaching or denitrification with excessively wet spring conditions. This is a more important issue for manure with large ammonium-N concentration, such as liquid swine manure. Coarse-textured soils, with high permeability, are the most likely to have leaching losses. Fine- and moderately fine-textured soils, prone to excess wetness, are most likely to have denitrification losses. Manure applied in the spring has less time for organic N and P mineralization before crop uptake. Delayed mineralization can be an important issue for manure with high organic matter content, especially in cold springs. With manure that

contains a large portion of N as ammonium, spring application allows for better timing of nitrification to nitrate and subsequent crop use, and less chance of N loss.

As a general rule, do not apply manure in the fall unless the soil temperature is 50° F and cooling at the four-inch soil depth. This will slow the nitrification and nitrification processes and is an especially important consideration for manure containing a large portion of N as ammonium.

Broadcasting manure onto frozen, snow-covered, water-saturated soils increases the potential for nutrient losses with rainfall or snowmelt runoff to surface water systems. If manure must be applied in these conditions, it should be applied on relatively flat land, slopes less than 5 percent, and well away from streams and waterways (see Iowa Department of Natural Resources rules on setback distances).

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Example Calculation of Manure Application Rates

Note: The N, P, and K fertilization requirements for these examples are determined from appropriate extension publications and Web-based tools listed at the right.

Example 1

- Manure source: liquid swine manure, including solids-bulking pit.
- Manure analysis: 40 lb N/1,000 gal, 25 lb P₂O₅/1,000 gal, 25 lb K₂O/1,000 gal.
- Intended crop: corn in a corn-soybean rotation.
- Soil tests: 19 ppm Bray-1 P-1 (Optimum), 162 ppm Ammonium Acetate X (Optimum).
- Crop yield and P and K removal for determining nutrient rates needed: 200 bu/acre corn yield; 75 lb P₂O₅/acre and 60 lb K₂O/acre.
- Manure rate: based on corn N fertilization requirement of 125 lb N/acre.
- Manure application: applied late fall.
- Manure nutrient availability: 100 percent for N, P and K.
- Minimum N volatilization correction factor: 0.98.
- Manure rate: 125 lb N/acre ÷ (40 lb N/1,000 gal × 0.98) = 3,125 gal/acre.
- Manure available P and K nutrients applied: 3,125 gal/acre × (25 lb P₂O₅/1,000 gal) = 781 lb P₂O₅/acre and 3,125 gal/acre × (25 lb K₂O/1,000 gal) = 781 lb K₂O/acre.
- Phosphorus and K applied with the manure are adequate for P (slightly more than expected corn removal) and will supply more than needed K. The extra P and K can be used by the next crop and should be accounted for. However, additional P and K will need to be applied for the following soybean crop.

Example 2

- Manure source: solid-layer manure.
- Manure analysis: 72 lb N/acre, 69 lb P₂O₅/acre, 54 lb K₂O/acre.
- Intended crop: corn-soybean rotation.
- Soil tests: 18 ppm Bray-1 P-1 (Optimum), 120 ppm Ammonium Acetate X (Low).
- Manure rate: based on P requirement for soybean rotation of 110 lb P₂O₅/acre.
- Manure application: late fall, incorporated after four days.
- Manure nutrient availability: 55 percent for N, 100 percent for P and K.
- Manure N volatilization correction factor: 0.80.
- Manure rate: 110 lb P₂O₅/acre ÷ (69 lb P₂O₅/acre × 1.00) = 1.60 tons/acre.
- Manure available N and K nutrients applied: 1.60 tons/acre × (72 lb N/ton × 0.80 × 0.80) = 60 lb N/acre and 1.60 tons/acre × (54 lb K₂O/ton × 1.00) = 86 lb K₂O/acre.
- Corn N fertilization and P and K needed for the corn and soybean crops with a low soil test scenario: 130 lb N/acre and 172 lb K₂O/acre.
- Corn N fertilization and P and K needed with manure & not adequate for N, need additional 70 lb fertilizer N/acre (130 lb N/acre - 60 lb N/acre) and applied K is not adequate for the corn and soybean crops; need additional 86 lb K₂O/acre (172 - 86 = 86 lb K₂O/acre) from fertilizer.

Additional Resources

- PM 1688 A General Guide for Crop Nutrient and Limestone Recommendations in Iowa
- PM 287 Take a Good Sample to Help Make Good Decisions
- PM 2015 Concepts and Rationale for Regional Nitrogen Rate Guidelines for Corn
- PM 1714 Nitrogen Fertilizer Recommendations for Corn in Iowa
- PM 2026 Sensing Nitrogen Stress in Corn
- PM 1584 Cornstalk Testing to Evaluate Nitrogen Management
- PM 1588 How to Sample Manure for Nutrient Analysis
- A3769 Recommended Methods of Manure Analysis (University of Wisconsin)
- MWPS-18-51 Manure Characteristics: Section 1 (Midwest Plan Service)
- MWPS-18 Livestock Waste Facilities Handbook, Third Edition (Midwest Plan Service)
- Corn Nitrogen Rate Calculator: <http://extension.agron.iastate.edu/soilfertility/nrate.aspx>

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Summary

- Carefully manage the nutrients in animal manure as you would manage fertilizer.
- Have representative manure samples analyzed to determine nutrient concentration. At a minimum, samples should be analyzed for moisture (dry matter) and total N, P and K. For additional information on N composition, samples can be analyzed for ammonium. Maintain a manure analysis history for production facilities.
- Set the manure application rate according to crop fertilization requirements and for the crop availability of manure N, P, and K.
- Adjust manure rates for estimated N volatilization.
- For manure application rates, consider the crop N, P, and K fertilization requirements and field P-index ratings, but do not exceed the crop N fertilization need.
- Consider the nutrient needs of crop rotations rather than just individual crops, which is especially important for P and K management.
- Allocate manure to fields based on soil tests and crops to be grown.
- Fall applications of manure should not be made until the soil temperature is 50° F and cooling, especially for manure sources that have a large portion of N as ammonium.
- Do not apply manure to snow-covered, frozen, or water-saturated sloping ground to reduce risk of nutrient loss and water quality impairment.

Prepared by John E. Sawyer and Antonio R. Mallarino, professors of agronomy and extension soil fertility specialists, Iowa State University.

Expert This publication was peer-reviewed by three independent reviewers using a double-blind process.

... and justice for all

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APPENDIX C MASTER MATRIX

Proposed Site Characteristics

The following scoring criteria apply to the site of the proposed confinement feeding operation. Mark one score under each criterion selected by the applicant. The proposed site must obtain a minimum overall score of 440 and a score of 53.38 in the "air" subcategory, a score of 67.75 in the "water" subcategory and a score of 101.13 in the "community impacts" subcategory.

- 1 Additional separation distance, above minimum requirements, from proposed confinement structure to the closest:

- * Residence not owned by the owner of the confinement feeding operation,
- * Hospital,
- * Nursing home, or
- * Licensed or registered child care facility.

2440-1875-565'

	Score	Air	Water	Community
250 feet to 500 feet	25	16.25		8.75
501 feet to 750 feet	<u>45</u>	29.25		17.50
751 feet to 1,000 feet	65	42.25		22.75
1,001 feet to 1,250 feet	85	55.25		29.75
1,251 feet or more	100	65.00		35.00

(A) Refer to the construction permit application package to determine the animal unit capacity (or animal weight capacity if an expansion) of the proposed confinement feeding operation. Then refer to Table 6 of 567--Chapter 65 to determine minimum required separation distances.

(B) The department will award points only for the single building, of the four listed above, closest to the proposed confinement feeding operation.

(C) "Licensed child care center" -- a facility licensed by the department of human services providing child care or preschool services for seven or more children, except when the facility is registered as a child care home.

(D) "Registered child development homes" - child care providers certify that they comply with rules adopted by the department of human services. This process is voluntary for providers caring for five or fewer children and mandatory for providers caring for six or more children.

(E) A full listing of licensed and registered child care facilities is available at county offices of the department of human services.

- 2 Additional separation distance, above minimum requirements, from proposed confinement structure to the closest public use area.

NONE WITHIN 4001'

	Score	Air	Water	Community
250 feet to 500 feet	5	2.00		3.00
501 feet to 750 feet	10	4.00		6.00
751 feet to 1,000 feet	15	6.00		9.00
1,001 feet to 1,250 feet	20	8.00		12.00
1,251 feet to 1,500 feet	25	10.00		15.00

1,501 feet or more	<u>30</u>	12.00		18.00
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(A) Refer to the construction permit application package to determine the animal unit capacity (or animal weight capacity if an expansion) of the proposed confinement feeding operation. Then refer to Table 6 of 567--Chapter 65 to determine minimum required separation distances.

(B) "Public use area" - a portion of land owned by the United States, the state, or a political subdivision with facilities which attract the public to congregate and remain in the area for significant periods of time. Facilities include, but are not limited to, picnic grounds, campgrounds, cemeteries, lodges, shelter houses, playground equipment, lakes as listed in Table 2 of 567--Chapter 65, and swimming beaches. It does not include a highway, road right-of-way, parking areas, recreational trails or other areas where the public passes through, but does not congregate or remain in the area for significant periods of time.

3 Additional separation distance, above minimum requirements, from proposed confinement structure to the closest:

- * Educational institution,
- * Religious institution, or
- * Commercial enterprise.

NONE WITHIN 3376'

	Score	Air	Water	Community
250 feet to 500 feet	5	2.00		3.00
501 feet to 750 feet	10	4.00		6.00
751 feet to 1,000 feet	15	6.00		9.00
1,001 feet to 1,250 feet	20	8.00		12.00
1,251 feet to 1,500 feet	25	10.00		15.00
1,501 feet or more	<u>30</u>	12.00		18.00

(A) Refer to the construction permit application package to determine the animal unit capacity (or animal weight capacity if an expansion) of the proposed confinement feeding operation. Then refer to Table 6 of 567--Chapter 65 to determine minimum required separation distances.

(B) The department will award points only for the single building, of the three listed above, closest to the proposed confinement feeding operation.

(C) "Educational institution" - a building in which an organized course of study or training is offered to students enrolled in kindergarten through grade 12 and served by local school districts, accredited or approved nonpublic schools, area educational agencies, community colleges, institutions of higher education under the control of the state board of regents, and accredited independent colleges and universities.

(D) "Religious institution" - a building in which an active congregation is devoted to worship.

(E) "Commercial enterprise" - a building which is used as a part of a business that manufactures goods, delivers services, or sells goods or services, which is customarily and regularly used by the general public during the entire calendar year and which is connected to electric, water, and sewer systems. A commercial enterprise does not include a farm operation.

4 Additional separation distance, above minimum requirement of 500 feet, from proposed confinement structure to the closest water source.

2459-500-1959

	Score	Air	Water	Community
250 feet to 500 feet	5		5.00	
501 feet to 750 feet	10		10.00	
751 feet to 1,000 feet	15		15.00	
1,001 feet to 1,250 feet	20		20.00	
1,251 feet to 1,500 feet	25		25.00	
1,501 feet or more	<u>30</u>		30.00	

"Water source" - a lake, river, reservoir, creek, stream, ditch, or other body of water or channel having definite banks and a bed with water flow, except lakes or ponds without an outlet to which only one landowner is riparian.

- 5 Separation distance of 300 feet or more from the proposed confinement structure to the nearest thoroughfare.

	Score	Air	Water	Community
300 feet or more	30	9.00		21.00

(A) "Thoroughfare" - a road, street, bridge, or highway open to the public and constructed or maintained by the state or a political subdivision.

(B) The 300-foot distance includes the 100-foot minimum setback plus additional 200 feet.

- 6 Additional separation distance, above minimum requirements, from proposed confinement structure to the closest critical public area.

	Score	Air	Water	Community
500 feet or more	10	4.00		6.00

(A) All critical public areas as defined in 567--65.1(455B), are public use areas, and therefore subject to public use area minimum separation distances.

(B) Refer to the construction permit application package to determine the animal unit capacity (or animal weight capacity if an expansion) of the proposed confinement feeding operation. Then refer to Table 6 of 567--Chapter 65 to determine minimum required separation distances.

- 7 Proposed confinement structure is at least two times the minimum required separation distance from all private and public water wells.

	Score	Air	Water	Community
Two times the minimum separation distance	30		24.00	6.00

Refer to Table 6 of 567--Chapter 65 for minimum required separation distances to wells.

- 8 Additional separation distance, above the minimum requirement of 1,000 feet, from proposed confinement structure to the closest:

- * Agricultural drainage well,
- * Known sinkhole, or
- * Major water source.

	Score	Air	Water	Community
250 feet to 500 feet	5	0.50	2.50	2.00
501 feet to 750 feet	10	1.00	5.00	4.00
751 feet to 1,000 feet	15	1.50	7.50	6.00
1,001 feet to 1,250 feet	20	2.00	10.00	8.00
1,251 feet to 1,500 feet	25	2.50	12.50	10.00
1,501 feet to 1,750 feet	30	3.00	15.00	12.00
1,751 feet to 2,000 feet	35	3.50	17.50	14.00
2,001 feet to 2,250 feet	40	4.00	20.00	16.00
2,251 feet to 2,500 feet	45	4.50	22.50	18.00
2,501 feet or more	50	5.00	25.00	20.00

- (A) The department will award points only for the single item, of the three listed above, that is closest to the proposed confinement feeding operation.
- (B) "Agricultural drainage wells" - include surface intakes, cisterns and wellheads of agricultural drainage wells.
- (C) "Major water source" - a lake, reservoir, river or stream located within the territorial limits of the state, or any marginal river area adjacent to the state which can support a floating vessel capable of carrying one or more persons during a total of a six-month period in one out of ten years, excluding periods of flooding. Major water sources in the state are listed in Tables 1 and 2 in 567--Chapter 65.

- 9 Distance between the proposed confinement structure and the nearest confinement facility that has a submitted department manure management plan.

	Score	Air	Water	Community
Three-quarter of a mile or more (3,960 feet)	25	7.50	7.50	10.00

Confinement facilities include swine, poultry, and dairy and beef cattle.

- 10 Separation distance from proposed confinement structure to closest:

- *High quality (HQ) waters,
- * High quality resource (HQR) waters, or
- * Protected water areas (PWA)

is at least two times the minimum required separation distance

	Score	Air	Water	Community
Two times the minimum separation distance	30		22.50	7.50

(A) The department will award points only for the single item, of the three listed above, closest to the proposed confinement feeding operation.

(B) HQ waters are identified in 567--Chapter 61.

(C) HQR waters are identified in 567--Chapter 61.

(D) A listing of PWAs is available at

<http://www.state.ia.us/government/dnr/organiza/ppd/prowater.htm#Location%20of%20PWA's%20in>.

- 11 Air quality modeling results demonstrating an annoyance level less than 2 percent of the time for residences within two times the minimum separation distance.

	Score	Air	Water	Community
University of Minnesota OFFSET model results demonstrating an annoyance level less than 2 percent of the time	10	6.00		4.00

(A) OFFSET can be found at <http://www.extension.umn.edu/distribution/livestocksystems/DI7680.html>. For more information, contact Dr. Larry Jacobson, University of Minnesota, (612) 625-8288, jacob007@tc.umn.edu.

(B) A residence that has a signed waiver for the minimum separation distance cannot be included in the model.

(C) Only the OFFSET model is acceptable until the department recognizes other air quality models.

- 12 Liquid manure storage structure is covered.

	Score	Air	Water	Community
Covered liquid manure storage	30	27.00		3.00

(A) "Covered" - organic or inorganic material, placed upon an animal feeding operation structure used to store manure, which significantly reduces the exchange of gases between the stored manure and the outside air. Organic materials include, but are not limited to, a layer of chopped straw, other crop residue, or a naturally occurring crust on the surface of the stored manure. Inorganic materials include, but are not limited to, wood, steel, aluminum, rubber, plastic, or Styrofoam. The materials shall shield at least 90 percent of the surface area of the stored manure from the outside air. Cover shall include an organic or inorganic material which current scientific research shows reduces detectable odor by at least 75 percent. A formed manure storage structure directly beneath a floor where animals are housed in a confinement feeding operation is deemed to be covered.

(B) The design, operation and maintenance plan for the manure cover must be in the construction permit application and made a condition in the approved construction permit.

- 13** Construction permit application contains design, construction, operation and maintenance plan for emergency containment area at manure storage structure pump-out area.

	Score	Air	Water	Community
Emergency containment	20		18.00	2.00

(A) The emergency containment area must be able to contain at least 5 percent of the total volume capacity of the manure storage structure.

(B) The emergency containment area must be constructed on soils that are fine-grained and have low permeability.

(C) If manure is spilled into the emergency containment area, the spill must be reported to the department within six hours of onset or discovery.

(D) The design, construction, operation and maintenance plan for the emergency containment area must be in the construction permit application and made a condition in the approved construction permit.

- 14** Installation of a filter(s) designed to reduce odors from confinement building(s) exhaust fan(s).

	Score	Air	Water	Community
Installation of filter(s)	10	8.00		2.00

The design, operation and maintenance plan for the filter(s) must be in the construction permit application and made a condition in the approved construction permit.

- 15** Utilization of landscaping around confinement structure.

	Score	Air	Water	Community
Utilization of landscaping	20	10.00		10.00

The design, operation and maintenance plan for the landscaping must be in the construction permit application and made a condition in the approved construction permit. The design should contain at least three rows of trees and shrubs, of both fast and slow-growing species that are well suited for the site.

- 16** Enhancement, above minimum requirements, of structures used in stockpiling and composting activities, such as an impermeable pad and a roof or cover.

	Score	Air	Water	Community
Stockpile and compost facility enhancements	30	9.00	18.00	3.00

(A) The design, operation and maintenance plan for the stockpile or compost structure enhancements must be in the construction permit application and made a condition in the approved construction permit.

(B) The stockpile or compost structures must be located on land adjacent or contiguous to the confinement building.

- 17** Proposed manure storage structure is formed

Score	Air	Water	Community
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Formed manure storage structure	30		27.00	3.00
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(A) "Formed manure storage structure" - a covered or uncovered impoundment used to store manure from an animal feeding operation, which has walls and a floor constructed of concrete, concrete block, wood, steel, or similar materials. Similar materials may include, but are not limited to, plastic, rubber, fiberglass, or other synthetic materials. Materials used in a formed manure storage structure shall have the structural integrity to withstand expected internal and external load pressures.

(B) The design, operation and maintenance plan for the formed manure storage structure must be in the construction permit application and made a condition in the approved construction permit.

- 18 Manure storage structure is aerated to meet departmental standards as an aerobic structure, if aeration is not already required by the department.

	Score	Air	Water	Community
Aerated manure storage structure(s)	10	8.00		2.00

(A) Aerobic structure - an animal feeding operation structure other than an egg washwater storage structure which relies on aerobic bacterial action which is maintained by the utilization of air or oxygen and which includes aeration equipment to digest organic matter. Aeration equipment shall be used and shall be capable of providing oxygen at a rate sufficient to maintain an average of 2 milligrams per liter dissolved oxygen concentration in the upper 30 percent of the depth of manure in the structure at all times.

(B) The design, operation and maintenance plan for the aeration equipment must be in the construction permit application and made a condition in the approved construction permit.

- 19 Proposed confinement site has a suitable truck turnaround area so that semitrailers do not have to back into the facility from the road

	Score	Air	Water	Community
Truck turnaround	20			20.00

(A) The design, operation and maintenance plan for the truck turn around area must be in the construction permit application and made a condition in the approved construction permit.

(B) The turnaround area should be at least 120 feet in diameter and be adequately surfaced for traffic in inclement weather.

- 20 Construction permit applicant's animal feeding operation environmental and worker protection violation history for the last five years at all facilities in which the applicant has an interest.

	Score	Air	Water	Community
No history of Administrative Orders in last five years	30			30.00

(A) "Interest" - means ownership of a confinement feeding operation as a sole proprietor or a 10 percent or more ownership interest held by a person in a confinement feeding operation as a joint tenant, tenant in common, shareholder, partner, member, beneficiary or other equity interest holder. Ownership interest is an interest when it is held either directly, indirectly through a spouse or dependent child, or both.

(B) An environmental violation is a final Administrative Order (AO) from the department of natural resources or final court ruling against the construction permit applicant for environmental violations related to an animal feeding operation. A Notice of Violation (NOV) does not constitute a violation.

- 21 Construction permit applicant waives the right to claim a Pollution Control Tax Exemption for the life of the proposed confinement feeding operation structure.

Score	Air	Water	Community
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Permanent waiver of Pollution Control Tax Exemption	5			5.00
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(A) Waiver of Pollution Control Tax Exemption is limited to the proposed structure(s) in the construction permit application.

(B) The department and county assessor will maintain a record of this waiver, and it must be in the construction permit application and made a condition in the approved construction permit.

22 Construction permit applicant can lawfully claim a Homestead Tax Exemption on the site where the proposed confinement structure is to be constructed

- OR -

the construction permit applicant is the closest resident to the proposed confinement structure.

	Score	Air	Water	Community
Site qualifies for Homestead Tax Exemption or permit applicant is closest resident to proposed structure	25			25.00

Proof of Homestead Tax Exemption is required as part of the construction permit application.

(A) Applicant include persons who have ownership interests. "Interest" - means ownership of a confinement feeding operation as a sole proprietor or a 10 percent or more ownership interest held by a person in a confinement feeding operation as a joint tenant, tenant in common, shareholder, partner, member, beneficiary or other equity interest holder. Ownership interest is an interest when it is held either directly, indirectly through a spouse or dependent child, or both.

23 Construction permit applicant can lawfully claim a Family Farm Tax Credit for agricultural land where the proposed confinement feeding operation is to be located pursuant to Iowa Code chapter 425A.

	Score	Air	Water	Community
Family Farm Tax Credit qualification	25			25.00

(A) Applicant include persons who have ownership interests. "Interest" - means ownership of a confinement feeding operation as a sole proprietor or a 10 percent or more ownership interest held by a person in a confinement feeding operation as a joint tenant, tenant in common, shareholder, partner, member, beneficiary or other equity interest holder. Ownership interest is an interest when it is held either directly, indirectly through a spouse or dependent child, or both.

24 Facility size.

$$4992 \times .4 = 1996.8$$

	Score	Air	Water	Community
1 to 2,000 animal unit capacity	20			20.00
2,001 to 3,000 animal unit capacity	10			10.00
3,001 animal unit capacity or more	0			0.00

- (A) Refer to the construction permit application package to determine the animal unit capacity of the proposed confinement structure at the completion of construction.
- (B) If the proposed structure is part of an expansion, animal unit capacity (or animal weight capacity) must include all animals confined in adjacent confinement structures.
- (C) Two or more animal feeding operations under common ownership or management are deemed to be a single animal feeding operation if they are adjacent or utilize a common area or system for manure disposal. In addition, for purposes of determining whether two or more confinement feeding operations are adjacent, all of the following must apply:
- (a) At least one confinement feeding operation structure must be constructed on and after May 21, 1998.
 - (b) A confinement feeding operation structure which is part of one confinement feeding operation is separated by less than a minimum required distance from a confinement feeding operation structure which is part of the other confinement feeding operation. The minimum required distance shall be as follows:
 - (1) 1,250 feet for confinement feeding operations having a combined animal unit capacity of less than 1,000 animal units.
 - (2) 2,500 feet for confinement feeding operations having a combined animal unit capacity of 1,000 animal units or more.

25 Construction permit application includes livestock feeding and watering systems that significantly reduce manure volume.

	Score	Air	Water	Community
Wet/dry feeders or other feeding and watering systems that significantly reduce manure volume	25		12.50	12.50

The design, operation and maintenance plan for the feeding system must be in the construction permit application and made a condition in the approved construction permit.

Proposed Site Operation and Manure Management Practices

The following scoring criteria apply to the operation and manure management characteristics of the proposed confinement feeding operation. Mark one score under each criterion that best reflects the characteristics of the submitted manure management plan.

26 Liquid or dry manure (choose only one subsection from subsections "a" - "e" and mark one

		Score	Air	Water	Community
a.	Bulk dry manure is sold under Iowa Code chapter 200A and surface-applied	15		15.00	
	Bulk dry manure is sold under Iowa Code chapter 200A and incorporated on the same date it is land-applied	30	12.00	12.00	6.00
b.	Dry manure is composted and land-applied under the requirements of a department manure management plan	10	4.00	4.00	2.00
	Dry manure is composted and sold so that no manure is applied under the requirements of a department manure management plan	30	12.00	12.00	6.00

c.	Methane digester is used to generate energy from manure and remaining manure is surface-applied under the requirements of an approved department manure management plan	10	3.00	3.00	4.00
	injected or incorporated on the same date it is land-applied under the requirements of an approved department manure management plan	30	12.00	12.00	6.00
d.	Dry manure is completely burned to generate energy and no remaining manure is applied under the requirements of a manure management plan	30	9.00	9.00	12.00
	Some dry manure is burned to generate energy, but remaining manure is land-applied and incorporated on the same date it is land-applied	30	12.00	12.00	6.00
e.	Injection or incorporation of manure on the same date it is land-applied	30	12.00	12.00	6.00

(A) Choose only ONE line from subsection "a", "b", "c", "d", or "e" above and mark only one score in that subsection.

(B) The injection or incorporation of manure must be in the construction permit application and made a condition in the approved construction permit.

(C) If an emergency arises and injection or incorporation is not feasible, prior to land application of manure the applicant must receive a written approval for an emergency waiver from a department field office to surface-apply manure.

(D) Requirements pertaining to the sale of bulk dry manure under pursuant to Iowa Code chapter 200A must be incorporated into the construction permit application and made a condition of the approved construction permit.

(E) The design, operation and maintenance plan for utilization of manure as an energy source must be in the construction permit application and made a condition in the approved construction permit.

(F) The design, operation and maintenance plan for composting facilities must be in the construction permit application and made a condition in the approved construction permit.

27 Land application of manure is based on a two-year crop rotation phosphorus uptake level.

	Score	Air	Water	Community
Two-year phosphorus crop uptake application rate	10		10.00	

(A) Land application of manure cannot exceed phosphorus crop usage levels for a two-year crop rotation cycle.

(B) The phosphorus uptake application rates must be in the construction permit application and made a condition in the approved construction permit.

28 Land application of manure to farmland that has USDA Natural Resources Conservation Service (NRCS) approved buffer strips contiguous to all water sources traversing or adjacent to the fields listed in the manure management plan.

	Score	Air	Water	Community
Manure application on farmland with buffer strips	10		8.00	2.00

- (A) The department may request NRCS maintenance agreements to ensure proper design, installation and maintenance of filter strips. If a filter strip is present but not designed by NRCS, it must meet NRCS standard specifications.
- (B) The application field does not need to be owned by the confinement facility owner to receive points.
- (C) On current and future manure management plans, the requirement for buffer strips on all land application areas must be in the construction permit application and made a condition in the approved construction permit.

29 Land application of manure does not occur on highly erodible land (HEL), as classified by the USDA NRCS.

	Score	Air	Water	Community
No manure application on HEL farmland	10		10.00	

Manure application on non-HEL farmland must be in the construction permit application and made a condition in the approved construction permit.

30 Additional separation distance, above minimum requirements (0 or 750 feet, see below), for the land application of manure to the closest:

- *Residence not owned by the owner of the confinement feeding operation,
- * Hospital,
- * Nursing home, or
- *Licensed or registered child care facility.

	Score	Air	Water	Community
Additional separation distance of 200 feet	5	3.25		1.75
Additional separation distance of 500 feet	10	6.50		3.50

- (A) The department will award points only for the single building, of the four listed above, closest to the proposed confinement feeding operation.
- (B) Minimum separation distance for land application of manure injected or incorporated on the same date as application: 0 feet.
- (C) Minimum separation distance for land application of manure broadcast on soil surface: 750 feet.
- (D) The additional separation distances must be in the construction permit application and made a condition in the approved construction permit.
- (E) "Licensed child care center" – a facility licensed by the department of human services providing child care or preschool services for seven or more children, except when the facility is registered as a child care home.
- (F) "Registered child development homes" - child care providers certify that they comply with rules adopted by the department of human services. This process is voluntary for providers caring for five or fewer children and mandatory for providers caring for six or more children.
- (G) A full listing of licensed and registered child care facilities is available at county offices of the department of human services.

31 Additional separation distance, above minimum requirements (0 or 750 feet, see below), for land application of manure to closest public use area.

	Score	Air	Water	Community
Additional separation distance of 200 feet	5	2.00		3.00

(A) "Public use area" - a portion of land owned by the United States, the state, or a political subdivision with facilities which attract the public to congregate and remain in the area for significant periods of time. Facilities include, but are not limited to, picnic grounds, campgrounds, cemeteries, lodges, shelter houses, playground equipment, lakes as listed in Table 2 in 567--Dchapter 65, and swimming beaches. It does not include a highway, road right-of-way, parking areas, recreational trails or other areas where the public passes through, but does not congregate or remain in the area for significant periods of time.

(B) Minimum separation distance for land application of manure injected or incorporated on the same date as application: 0 feet.

(C) Minimum separation distance for land application of manure broadcast on soil surface: 750 feet.

(D) The additional separation distances must be in the construction permit application and made a condition in the approved construction permit.

32 Additional separation distance, above minimum requirements (0 or 750 feet, see below), for the land application of manure to the closest:

- * Educational institution,
- * Religious institution, or
- * Commercial enterprise.

	Score	Air	Water	Community
Additional separation distance of 200 feet	5	2.00		3.00

(A) Minimum separation distance for land application of manure broadcast on soil surface: 750 feet.

(B) Minimum separation distance for land application of manure injected or incorporated on same date as application: 0 feet.

(C) The additional separation distances must be in the construction permit application and made a condition in the approved construction permit.

(D) "Educational institution" - a building in which an organized course of study or training is offered to students enrolled in kindergarten through grade 12 and served by local school districts, accredited or approved nonpublic schools, area educational agencies, community colleges, institutions of higher education under the control of the state board of regents, and accredited independent colleges and universities.

(E) "Religious institution" - a building in which an active congregation is devoted to worship.

(F) "Commercial enterprise" - a building which is used as a part of a business that manufactures goods, delivers services, or sells goods or services, which is customarily and regularly used by the general public during the entire calendar year and which is connected to electric, water, and sewer systems. A commercial enterprise does not include a farm operation.

33 Additional separation distance of 50 feet, above minimum requirements (0 or 200 feet, see below), for the land application of manure to the closest private drinking water well or public drinking water well

- OR -

well is properly closed under supervision of county health officials.

	Score	Air	Water	Community
Additional separation distance of 50 feet or well is properly closed	10		8.00	2.00

(A) Minimum separation distance for land application of manure injected or incorporated on the same date as application or 50-foot vegetation buffer exists around well and manure is not applied to the buffer: 0 feet.

(B) Minimum separation distance for land application of manure broadcast on soil surface: 200 feet.

(C) If applicant chooses to close the well, the well closure must be incorporated into the construction permit application and made a condition in the approved construction permit.

34 Additional separation distance, above minimum requirements, for the land application of manure to the closest:

- * Agricultural drainage well,
- * Known sinkhole,
- * Major water source, or
- * Water source.

	Score	Air	Water	Community
Additional separation distance of 200 feet	5	0.50	2.50	2.00
Additional separation distance of 400 feet	10	1.00	5.00	4.00

(A) "Agricultural drainage wells" - include surface intakes, cisterns and wellheads of agricultural drainage wells.

(B) "Major water source" - a lake, reservoir, river or stream located within the territorial limits of the state, or any marginal river area adjacent to the state, which can support a floating vessel capable of carrying one or more persons during a total of a six-month period in one out of ten years, excluding periods of flooding. Major water sources in the state are listed in Tables 1 and 2 in 567--Chapter 65.

(C) "Water source" - a lake, river, reservoir, creek, stream, ditch, or other body of water or channel having definite banks and a bed with water flow, except lakes or ponds without an outlet to which only one landowner is riparian.

(D) The additional separation distances must be in the construction permit application and made a condition in the approved construction permit.

35 Additional separation distance above minimum requirements, for the land application of manure, to the closest:

- * High quality (HQ) water,
- * High quality resource (HQR) water, or
- * Protected water area (PWA).

	Score	Air	Water	Community
Additional separation distance of 200 feet	5		3.75	1.25
Additional separation distance of 400 feet	10		7.50	2.50

(A) HQ waters are identified in 567--Chapter 61.

(B) HQR waters are identified in 567--Chapter 61.

(C) A listing of PWAs is available at

<http://www.state.ia.us/government/dnr/organiza/ppd/prowater.htm#Location%20of%20PWA's%20in>

36 Demonstrated community support.

	Score	Air	Water	Community
Written approval of 100% of the property owners within a one mile radius.	20			20.00

37 Worker safety and protection plan is submitted with the construction permit application.

	Score	Air	Water	Community
Submission of worker safety and protection plan	10			10.00

(A) The worker safety and protection plan must be in the construction permit application and made a condition in the approved construction permit.

(B) The worker safety and protection plan and subsequent records must be kept on site with the manure management plan records.

38 Applicant signs a waiver of confidentiality allowing public to view confidential manure management plan land application records

	Score	Air	Water	Community
Manure management plan confidentiality waiver	5			5.00

The waiver of confidentiality must be in the construction permit application and made a condition in the approved construction permit. The applicant may limit public inspection to reasonable times and places.

- 39** Added economic value based on quality job development (number of full time equivalent (FTE) positions), and salary equal to or above Iowa department of workforce development median (45-2093)

- OR -

the proposed structure increases commercial property tax base in the county.

	Score	Air	Water	Community
Economic value to local community	10			10.00

The Iowa department of workforce development regional profiles are available at <http://www.iowaworkforce.org/centers/regionalsites.htm>. Select the appropriate region and then select "Regional Profile."

- 40** Construction permit application contains an emergency action plan.

	Score	Air	Water	Community
Emergency action plan	5		2.50	2.50

(A) Iowa State University Extension publication PM 1859 lists the components of an emergency action plan. The emergency action plan submitted should parallel the components listed in the publication.

(B) The posting and implementation of an emergency action plan must be in the construction permit application and made a condition in the approved construction permit.

(C) The emergency action plan and subsequent records must be kept on site with the manure management plan records.

- 41** Construction permit application contains a closure plan.

	Score	Air	Water	Community
Closure plan	5		2.50	2.50

(A) The closure plan must be in the construction permit application and made a condition in the approved construction permit.

(B) The closure plan must be kept on site with the manure management plan records.

- 42** Adoption and implementation of an environmental management system (EMS) recognized by the department.

	Score	Air	Water	Community
EMS	15	4.50	4.50	6.00

(A) The EMS must be in the construction permit application and made a condition in the approved construction permit.

(B) The EMS must be recognized by the department as an acceptable EMS for use with confinement operations.

- 43** Adoption and implementation of NRCS approved Comprehensive Nutrient Management Plan (CNMP).

	Score	Air	Water	Community
CNMP	10	3.00	3.00	4.00

The implementation and continuation of a CNMP must be in the construction permit application and made a condition in the approved construction permit.

- 44** Groundwater monitoring wells installed near manure storage structure), and applicant agrees to provide data to the department.

	Score	Air	Water	Community
Groundwater monitoring	15		10.50	4.50

(A) Monitoring well location, sampling and data submission must meet department requirements.

(B) The design, operation and maintenance plan for the groundwater monitoring wells, and data transfer to the department, must be in the construction permit application and made a condition in the approved construction permit.

Score to pass

Total Score	Air	Water	Community
880	213.50	271.00	404.50
440	53.38	67.75	101.13

Site: P 301

APPENDIX C

MASTER MATRIX

Question	Score	Air	Water	Community
1	45	29.25	0	17.5
2	30	12	0	18
3	30	12	0	18
4	30	0	30	0
5	0	0	0	0
6	10	4	0	6
7				
8	50	5	25	20
9	0	0	0	0
10	30	0	22.5	7.5
11				
12	30	27	0	3
13	0	0	0	0
14	0	0	0	0
15	20	10	0	10
16	0	0	0	0
17	30	0	27	3
18	0	0	0	0
19	20	0	0	20
20	30	0	0	30
21				
22				
23	0	0	0	0
24	20	0	0	20
25	25	0	12.5	12.5
26	30	12	12	6
27				
28				
29				
30				
31				
32				
33				
34				
35	0	0	0	0
36	0	0	0	0
37				
38				
39	0	0	0	0
40				
41				
42				
43				
44	0	0	0	0

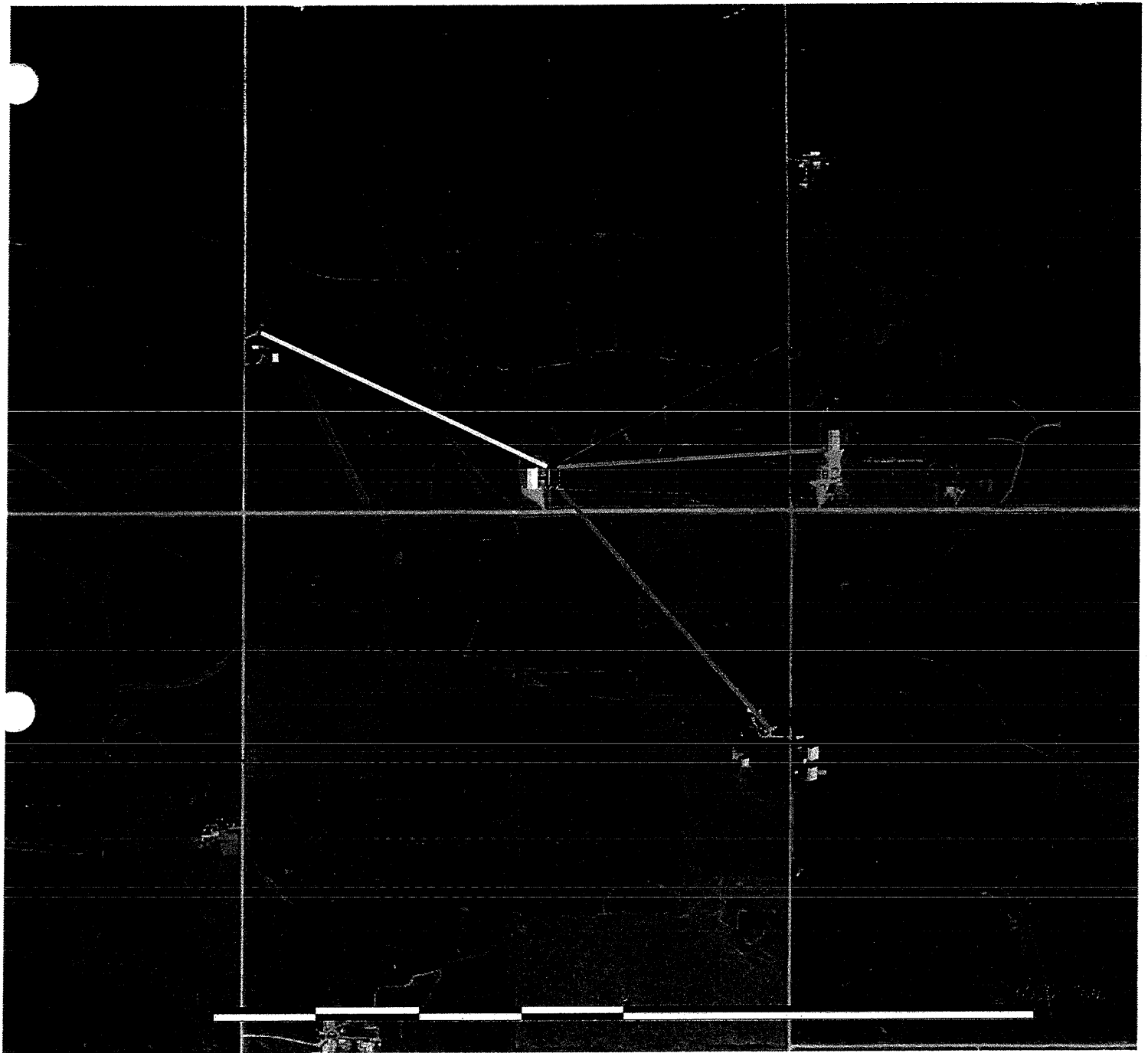
Only for: "b,c, or d"

Total	440	111.25	134	196.5
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<u>Total to Pass</u>	<u>440</u>	<u>53.38</u>	<u>67.75</u>	<u>101.13</u>
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Requires: "Design, Operation, and Maintenance Plan"

Site; 12 (0.47 ac.)



No Public Use within 4001'

No Educational, Religious, or Commercial Ent within 3376'

No Well within 101'

No Ag Drainage Well, Known Sinkhole, or Major Water within 3501'

No HQ, HQR, or PWA within 1001'

Date: Feb 17, 2012

Field Name: Site; 12

Location: Poweshiek Co., Iowa, U.S.

Section 15, T81N, R16W

Farm Name: P 301

Client Name: P-Index

Total Acres: 0.47

Field Boundary Start Location:

Latitude: 41.82030300

Longitude: -92.69706433

Distance To P 244

2636.03

Distance To Water

2459.279

Res

2440.743

3113.77

3152.56

Distance between barns

100.782

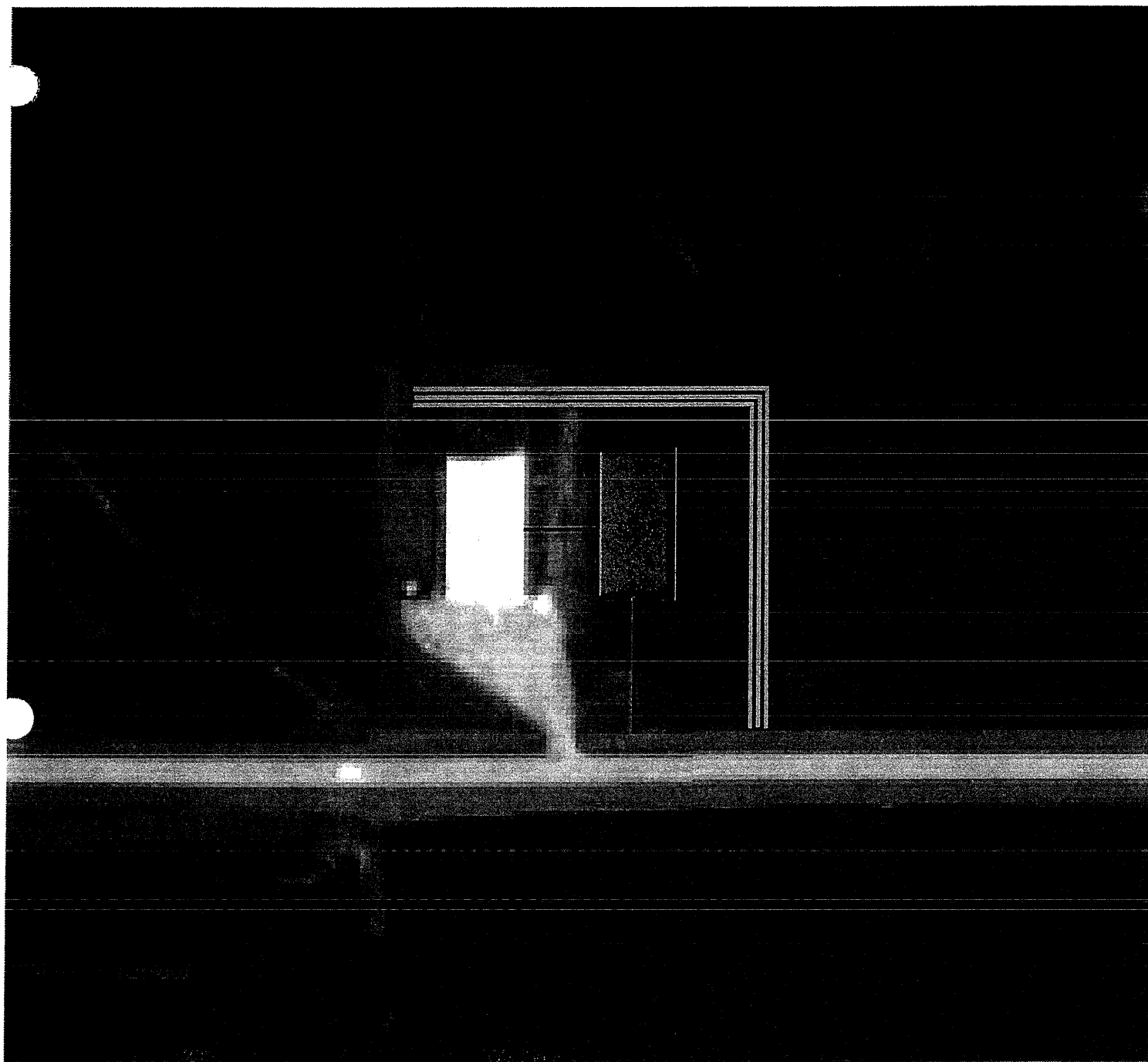
Distance To Fence

186.023

(0.5ac.)Field Boundary



Site; 12 (0.47 ac.)



Date: Mar 21, 2012
Field Name: Site; 12
Location: Poweshiek Co., Iowa, U.S.
Section 15, T81N, R16W
Farm Name: P 301
Client Name: P-Index
Total Acres: 0.47
Field Boundary Start Location:
Latitude: 41.82030300
Longitude: -92.69706433



Trees
Distance between barns
100.782
Distance To Fence
186.023
(0.5ac.) Field Boundary

Design, Operating, & Maintenance Plans & Supporting Documentation

SITE NAME – PI-301

Master Matrix #1

The swine facility is located an additional **565 feet**, above the required **1,875 feet**, away from the closest residence not owned by the owner of the confinement feeding operation, Hospital, Nursing Home, and Licensed or registered child care facility. Refer to site map. Credits of **45 pts** have been counted in the Master Matrix for **Item 1**.

Master Matrix #2

The swine facility is located at least an additional **1501 feet**, above the required **2500 feet**, away from the closest Public Use Area; defined as a portion of land owned by the United States, the state, or a political subdivision with facilities which attract the public to congregate and remain in the area for significant periods of time. Refer to site map. Credits of **30 pts** have been counted in the Master Matrix for **Item 2**.

Master Matrix #3

The swine facility is located at least an additional **1501 feet**, above the required **1,875 feet**, away from the closest Educational Institute, Religious Institution, or Commercial Enterprise. Refer to site map. Credits of **30 pts** have been counted in the Master Matrix for **Item 3**.

Master Matrix #4

The swine facility is located an additional **1959 feet**, above the required **500 feet**, away from the closest water source. Refer to site map. Credits of **30 pts** have been counted in the Master Matrix for **Item 4**.

Master Matrix #6

The swine facility is located an additional **500 feet**, above the required **2,500 feet**, away from the closest critical public area. Refer to site map. Credits of **10 pts** have been counted in the Master Matrix for **Item 6**.

Master Matrix #8

The swine facility is located an additional **2501 feet**, above the required **1,000 feet**, away from the closest Agricultural drainage well, known sinkhole, or major water source. Refer to site map. Credits of **50 pts** have been counted in the Master Matrix for **Item 8**.

Master Matrix #10

The swine facility is located at least two times the minimum separation distance of **500 feet**, from the closest high quality water, high quality resource water, or protected water areas. Refer to site map. Credits of **30 pts** have been counted in the Master Matrix for **Item 10**.

Master Matrix #12

Design: The site will consist of (2) swine finishing buildings housing a maximum of 4992 finishing animals, 1996.8 AUC. Each building will have an 8' deep formed concrete pit. The construction design specifications will meet the IDNR requirements as verified in the IDNR Construction Design Statement form attached herein.

Operation: Monthly inspections of the building structure roof will be conducted to insure water is not infiltrating the storage pit.

Maintenance: Maintenance of the cover will be minimal, since it is built of steel, and is a main component of the confinement building. However, the roof will be inspected monthly, looking for evidence of any water leaks. If any leaks are found, they will be immediately repaired with appropriate materials to achieve as-built condition.

Credits of 30 points have been counted in the Master Matrix for **Item 12**.

Master Matrix # 15

Design: The site will have a minimum of 3 rows of trees on the **North** and **East** sides.

Operation: These trees and shrubs will include both fast and slow growing varieties.

Maintenance: The trees and shrubs will be inspected periodically for diseases, insects, weeds, and other factors that may damage the health of the trees and shrubs. If any of these factors are found, appropriate measures will be taken to rid of the problem.

Credits of 20 pts have been counted in the Master Matrix for **Item 15**

Master Matrix # 17

Design: The site will utilize an 8' deep formed concrete pit. Refer to the Construction Design Statement for specifications of concrete and reinforcement materials to be used in this structure.

Operation: The facility will be operated as a below building concrete pit with periodic inspections to assure the soundness of the structure. Heavy equipment will maintain a safe distance to avoid any stress on the structures.

Maintenance: Due to the concrete design and specifications for the structure, maintenance is expected to be minimal for this structure. However, the exterior of the below building pits will be inspected monthly to look for cracks or any evidence of outside water entering into the pit. If any evidence of cracks is found, grout or another form of sealing agent will be immediately used to seal the cracks to achieve as built conditions. In addition, the integrity of each pit shall be evaluated by observing the perimeter footing tile discharge for signs of contamination such as bad smell, discoloration, excessive liquid in tile during dry times, and dead foliage and also proper functioning of the perimeter tile system needs to be checked. Any collapsing and plugging of the drain tile must be fixed and immediate measures should be taken when detecting any leaks from the pits. If contamination happens a prompt investigation should be conducted to locate the source of the manure leak and necessary remedial measures should be taken and DNR should be notified. Any significant reduction in the discharge rate should be considered an indicator of the footing tile collapse or blockage which should be corrected immediately.

Credits of 30 pts have been counted in the Master Matrix for **Item 17**.

Master Matrix # 19

Design: The site will have a truck turnaround area at least 120 feet in diameter and adequately surfaced for traffic in inclement weather. The site will have a truck turnaround area allowing the trucks to pull in to the site completely off of the road and turn around.

Operation: The driveway will be operated to provide for safe entrance and exit to the property for delivery vehicles and not obstruct the public thoroughfare.

Maintenance: The driveway will be maintained to a level that will support regular truck traffic. The driveway will be constructed with a 2-3 inch base. Road rock gravel will be used as a road surface that will be monitored for the purposes of leveling, filling potholes, and adequate snow removal.

Credits of 20 pts have been counted in the Master Matrix for **Item 19**.

Master Matrix #20

The construction permit applicant has no history of Administrative Orders in the last five years at any site in which the applicant has any interest.

Credits of 30 pts have been counted in the Master Matrix for **Item 20**.

Master Matrix #24

The facility has a capacity of 0 to 2000 animal units. Refer to Construction Permit Application, page 3.

Credits of 20 pts have been counted in the Master Matrix for **Item 24**.

Master Matrix #25

Design: The buildings on the site will utilize a wet/dry feeder design or a dry feeder with watering cups. Industry wide accepted data shows significant water savings compared to a gate mounted watering nipple. Please refer to the attached scientific article illustrating the water savings and benefits of utilizing wet/dry feeders.

Operation: Feeders and watering cups will be adjusted to reduce waste and optimize feed efficiency for the facility. The water savings result in reducing the gallons of nutrients in the pit that later have to be hauled out onto farm fields.

Maintenance: The feeders will be inspected on a regular basis and adjusted as needed. Water flow will be monitored and adjusted to control waste and excess manure volume.

Credits of 25 pts have been counted in the Master Matrix for **item 25**.

Master Matrix # 26 "e"

All manure will be injected or incorporated on the same date that it is applied.

Credits of 30 pts have been counted in the Master Matrix for **Item 26e**.

Master Matrix #40

An Emergency Action Plan in compliance with the Iowa State University Extension publication PM 1859 was submitted with the construction permit application and was made a condition in the construction permit. The emergency action plan and subsequent records will be kept on site with the manure management plan records.

Credits of 5 pts have been counted in the Master Matrix for **Item 40**.

Mater Matrix #41

Upon need of closure of the Site, all buildings will be washed completely and flushed into the below building pits. The pits will be completely pumped out and applied to the soils at appropriate application rates and methods determined by a manure sample and DNR-management guidelines. The remaining facility buildings and cement structures will be destroyed and disposed of according to approved methods, regulations, and permits required by the appropriate county, state and federal departments/agencies/personnel required at that time.

Credits of 5 pts have been taken for **Item 41**.

Prestage Farms of IA – Site Contact Information

PI-301

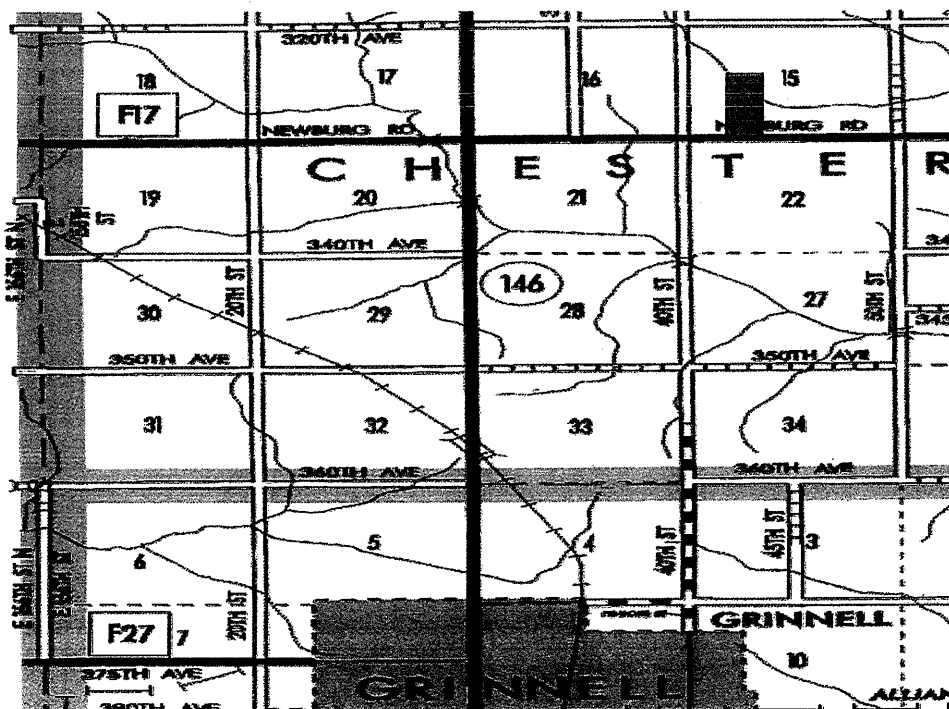
455 Newberg Rd
Grinnell, IA
(641)236-1793

Prestage Farms of IA

1421 South Bell Ave, Suite 107
Ames, IA 50010
(877)832-4810 office
(877)832-4813 fax
(866)832-1854 weekend maintenance

County	Poweshiek	Emergency	911
Township	Chester	Electric Company	Alliant Energy
Legal Description	SW ¼ SE ¼ Sec.15-81-16W	Meter #	90486077
Premise ID #	OOFWM27	Phone #	877-740-5050
Service Manager	Steve Crawford	Phone Company	IA Telecom
Phone #	515-290-2552	Phone #	877-901-4692
Site Manager	Jack Bingham	Sheriff	641-623-5679
Phone #	641-750-4457	Hospital	Grinnell Reg. Medical Center
Herd Veterinarian	Dr. Mathew Turner	Phone #	641-623-5679
Phone #	910-596-5725	Feed Mill	Key Coop
Local DNR Office	Des Moines	Phone #	641-236-6565
Phone #	515-725-0268	Well Service	L&M Pump
Manure Spill Hotline	515-281-8694	Phone #	641-592-4231
Mortality Disposal	Darling – DSM	Propane Supplier	Agriland FS
Phone #	515-265-0381	Phone #	641-673-8659
Road Department	Mark Baur	Dirt Contractor	Mark Seaton
Phone #	641-623-5435	Phone #	641-595-2261

Directions to Site: From Grinnell head north on Highway 146 for approximately four miles, turn east onto Highway F17(Newburg Rd.) for approximately 1.5 miles. Site is on the north side of the road.



Original research

Impact of feeders and drinker devices on pig performance, water use, and manure volume

Michael C. Brumm, MS, PhD; James M. Dahlquist, MS; Jill M. Heemstra, MS

Summary

Objective: To determine the impact of feeder and drinker designs on pig performance, water use, and manure volume.

Methods: Experiment One compared a wet/dry feeder to a dry feeder with wall-mounted nipple drinker. Experiment Two compared a swinging nipple drinker to a gate-mounted nipple, and Experiment Three compared a bowl drinker to the swinging drinker of Experiment Two. In all experiments, pigs were housed in pens of 20–24 pigs per pen in partially slatted, mechanically ventilated facilities.

Results: In Experiment One, water disappearance (L per pig per day) was 4.49 for the wet/dry feeder versus 6.06 for the dry feeder plus nipple drinker. In Experiment Two, water disappearance was 4.90 L per pig per day for the swinging drinker versus 5.50 for the gate-mounted drinker. In Experiment Three, water disappearance was 3.78 for the bowl versus 5.01 for the swinging drinker. Summer manure production in Experiment One was 4.96 L per pig per day for the wet-dry feeder versus 7.02 for the nipple drinker. Winter manure production was 3.96 L per pig per day for the swinging drinker versus 4.59 for the nipple drinker in Experiment Two.

Implications: These results document the wide range in water use and manure volume associated with feeder and drinker devices installed in swine facilities. They also suggest lower amounts of total water use and manure volume than those currently cited in the literature or used by regulatory officials.

For the overall experiment, pigs on wet/dry feeders used 1 kg of water less per kg of feed than did pigs on the conventional system.

The overall W:F ratio was lowest for the wet/dry feeder (1.78; Experiment One) and similar to the bowl drinker (1.89; Experiment Three).

In observations consistent with ours in Experiment One, Maton and Daelemans¹⁴ concluded that all wet feeders included in their experiments reduced water spillage so that water consumption was only 70%–80% of that observed from conventional feeders and nipple drinkers. In addition, slurry (manure) volume was reduced by 20%–30% in their study.

Table 2: Manure production

	Experiment One (summer)		Experiment Two	
	Dry	Wet/dry	Swing	Nipple
Per pig per day				
Volume	7.02 L (1.85 gal)	4.96 L (1.31 gal)	3.96 L (1.05 gal)	4.59 L (1.21 gal)
Mass ^a	7.0 kg (15.4 lb)	4.9 kg (10.8 lb)	3.9 kg (8.6 lb)	4.5 kg (9.9 lb)
Per 1000 kg bodyweight				
Mass	109 kg (240 lb)	76 kg (167 lb)	61 kg (134 lb)	70 kg (154 lb)

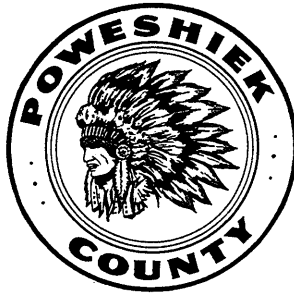
* 990 kg per m² (61.8 lb per cu. foot); ASAE⁸

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2. Reese DE, Thaler RC, Brumm MC, Hamilton CR, Lewis AJ, Libal GW, Miller PS. Nebraska and South Dakota Swine Nutrition Guide. Univ. of Nebraska, Lincoln. Nebraska Coop. Ext. 1995;EC95-273
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RECEIVED

MAY 10 2012

IOWA DNR
FIELD OFFICE 3

BOARD OF SUPERVISORS

Trevor White
Member

Larry Wilson
Board Chairman

Doug Shutts
Vice Chairman

May 7, 2012

Iowa DNR
Field Office #3
1900 N Grand Ave
Gateway North, Suite E17
Spencer, IA 51301

Re: Prestage Farms PI-301

Dear Paul,

We are writing in response to your letter of April 2, 2012 regarding the public notice, matrix evaluation and county recommendation required for DNR Facility ID No. 65294. Trevor White met Jeff Febold and Carroll Smith, Poweshiek County Sanitarian at the site of PI-301. After review we agree with the DNR Master Matrix scoring, but have concerns that stem from our public hearing.


We are enclosing pictures received at the Public hearing from Joyce Otto. The first picture shows flies on her 90 year old mothers' hands. She has lost feeling in her hands and does not realize when the flies are on her hands. She said flies had not been a problem before the confinement was built. The other two pictures show the smoke from a burning incinerator. There were complaints at the public hearing regarding the stench coming from these incinerators that does not allow the neighbors to spend time outdoors due to the smell. Ryan Pudenz, Prestage Farms did say they were going to discontinue using the incinerators, but need to use the remaining diesel fuel before they switch to using the rendering trucks. The reason for not using them was the cost of diesel fuel, **not the concerns from the neighbors**. Becky McIlrath said her son suffers from Muscular Dystrophy, and his only enjoyment is spending time in the family swimming pool during the summer. She stated due to the terrible smell from the hog confinements, and air quality concerns he will not be able to enjoy being out in their yard this summer. Another problem discussed was the fact Prestage Farms does not notify neighbors when they come into an area and build a CAFO. The people said they saw dozers in the field, but had no idea that a confinement was being built. Another resident said they can deal with the 2500 head in each building, but they can't stand having another 5000 head in their area.

We are enclosing two email messages, three pictures and a copy of the Board of Supervisors minutes of April 30, 2012. We understand that the permit will be approved, but would

appreciate it if you could share our concerns if the legislature inquires about the public comments you have received.

Thank you for your time and consideration in this matter.


Sincerely,



Larry Wilson, Chairman

Absent

Doug Shutts, Vice-chairman



Trevor White, Member

Supervisor's minutes

April 30, 2012

The Board met in regular session at 8:30 A.M. Members present: Doug Shutts, Larry Wilson and Trevor White.

8:30 A.M. A public hearing was held to receive comments on the expansion to an existing swine confinement in Section 14, Chester Township. The applicant is Prestage Farms of Iowa, LLC, and the animal capacity of the operation after the expansion will be 4992 head of swine finishers. Also present: James McIlrath; Becky McIlrath; Guy Vanderlinden, State Representative; JoAnn Speas; Chad Hafkey; Geroge Hafkey; Brian Ritland, Pinnacle; Ryan Pudenz; Prestage Farms; Lamoyne Gaard; Steve Crawford; Prestage Farms; Terry Pickett; and Joyce Otto. Chairman Wilson began the meeting by discussing the Master Matrix scoring, which was explained by Brian Ritland, Pinnacle. It was questioned if trees would filter the odor and Ryan Pudenz stated Prestage Farms is evaluating the different options before expanding. Comments followed regarding the fact Prestage Farms, LLC does not notify the neighbors when a new confinement is being built; air quality for neighbors with health problems; community impact; lower valuation of houses and property in the area; fly control; smell from incinerator burning dead hogs and if there will be other Prestage Farms buildings in Poweshiek County. Ryan Pudenz, Prestage Farms said they are looking into additive, bait and spray for the flies; will discontinue the

use of incinerators due to the cost of diesel to run them; and the community impact in the master matrix that speaks of distance to homes and other sites. He stated they do not plan to build any more confinement buildings at the Hafkey sites. The Supervisors agreed they will send the information to the DNR, but ultimately it is up to the DNR to give final approval on the confinement feeding operations. Representative Vanderlinden stated this is his first experience with confinements and stated a man has a right to sell his property, but also needs to be a good neighbor. Lamoyne Gaard asked if the Board would accept a petition. Doug Shutts said he felt if any farmer wants to build a confinement on his own land that is fine, but felt large out of state confinements should be classified as commercial and should pay extra tax to help maintain the County Roads. Larry Wilson stated our hands are tied and advised Prestage Farms to be a good neighbor and a corporate leader. Comments will be sent to the DNR by May 2, 2012.

10:05 A.M. Doug Shutts left the meeting.

Moved by White, 2nd by Wilson to approve Construction permit #12-19C to Gruhn Backhoe & Tiling, Section 18, Bear Creek Township. 2 ayes. Motion carried.

Moved by White, 2nd by Wilson to approve Driveway & Entrance permit #12-13E to Prestage Farms, LLC in Section 28, Lincoln Township. 2 ayes. Motion carried.

10:10 A.M. Moved by White, 2nd by Wilson to enter into closed session per Code of Iowa Chapter 21.5(c). White-aye. Wilson-aye. Motion carried. Present: Larry Wilson, Trevor White, Supervisors; Diana Dawley, Auditor; Dawn Roth, CPC by Conference call.

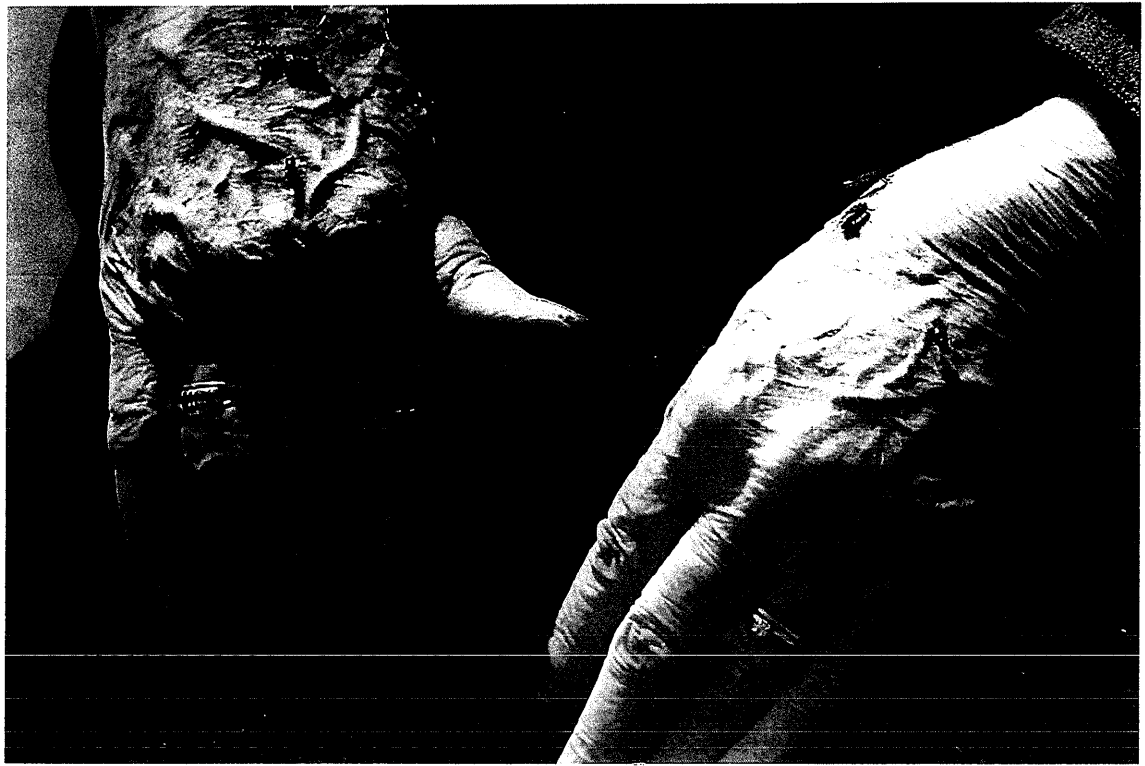
10:25 A.M. Moved by White, 2nd by Wilson to end closed session. White-aye. Wilson-aye. Motion carried.

Moved by White, 2nd by Wilson to approve the following claims.

Asberry, Joshua B.	\$ 835.43
Chief Alfa, Inc.	\$ 161.64
Fareway Stores, Inc.	\$ 49.45
Infomax	\$ 223.97
Iowa Police Chief's Assn	\$ 100.00
Iowa Workforce Development	\$1,925.00
Larson, Dale	\$ 456.42
Mid American Energy	\$ 224.79
Postmaster	\$ 325.04
Poweshiek County Mental	\$8,381.50
United States Cellular	\$ 157.19
Visa	\$ 749.21
Windstream Iowa Communications	\$ 113.30

2 ayes. Motion carried.

1:00 A.M. Moved by White, 2nd by Wilson to adjourn. 2 ayes. Motion carried.





Diana Dawley

From: Trevor White [tnpwhite@netins.net]
Sent: Sunday, April 29, 2012 7:37 PM
To: larry wilson; shutts@iowatelecom.net; Diana Dawley
Subject: FW: hog confinements

Trevor White

Bear Creek Tools
641-990-1774

From: Joyce Otto [mailto:jotto@iowatelecom.net]
Sent: Sunday, April 29, 2012 2:08 PM
To: tnpwhite@netins.net
Subject: hog confinements

I understand that you will be completing a Master Matrix on the application of Prestage for doubling the amount of hogs on the Hafkey farm. In reading about the Master Matrix, it is to address water, air, and community impact. This form is our only form of local control of factory farms coming in from North Carolina. More and more County Supervisors are stopping these factory farms.

I plea to you to consider the 'community impact' on this form. We as citizens deserve protection of our right to quality of life and protection of property value. I am a victim and factory farming is the perpetrator. Do not let them force this on us. Please.

Why can't they spread out the confinements? Convenience?—They get all the money so let them be inconvenienced. I sure have a lot of inconvenience with these hog confinements and I do not get anything—NOTHING but INCONVENIENCES forced upon me. Joyce Otto 3342 50th St. Grinnell 641-990-4045

Trevor White

From: Joyce Otto <jotto@iowatelecom.net>
Sent: Wednesday, May 02, 2012 10:46 PM
To: poweshieksupervisorwilson@gmail.com; shutts@iowatelecom.net; tnpwhite@netins.net
Subject: comments for permit application

Our community has lived with 2 hog confinements (2,480 hogs each) since 2008 . Another confinement is about 3 miles away. We all have made adjustments to the periods of horrid odors /flies with very little complaint. But now, the factory farm, Prestage, is putting in 2 more hog confinements with construction beginning within the next 60 days. The Newberg Rd/50th St sites are going from 5,000 hogs to 10,000 hogs. If you only get periodic odors and flies, double that. Think about dealing with that increase. Also keep in mind that they have more land to keep right on building-kind of like the chicken farm has done by Malcom (just talk to that community about their decline in quality of life issues)

We have a right to stand up for our “quality of life.” There are 3 quality of life issues that stand out—hog manure odors (x2), fly-infested living (x2), and property value devastation. **This large company is moving into our community, making lots of money, while ruining our freedoms of freely enjoying the outdoors and ruining our property value.**

Don't let Prestage keep building here (they are no longer allowed to build in North Carolina, so they have moved into our state). We deserve quality of life on our farmsteads in Iowa. **MONEY IS NOT MORE IMPORTANT THAN MY COMFORT IN LIVING/PROTECTING MY PROPERTY VALUE!!!**

Joyce Otto, RN, BSN, CWON

3342 50th St

Grinnell, IA 50112

641-990-4045

CERTIFICATE OF PUBLICATION

★ ★ ★

STATE OF IOWA as
POWESHIEK COUNTY

I, Dann Hayes
having been duly sworn, do depose and say
that I am Editor of the Poweshiek County CR,
a weekly newspaper published at Grinnell in
said County, that I am cognizant of the mat-
ters and things therein contained, and that
the annexed Notice was published in said
paper for

One consecutive weeks,

beginning April 11, 2012

and

ending April 11, 2012

Publisher

Dann Hayes

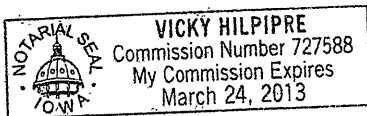
Editor

★ ★ ★

Subscribed and sworn to before me this

13th day of April AD

2012



Notary Public

Vicky Hilpipe

Fees for Publication: \$ 15.84

Received Payment _____ 20 _____

for Account No. 376164 - 80

by _____

PUBLIC NOTICE

PUBLIC NOTICE

A public hearing will be held on
Monday, April 23, 2012, at the Board-
room, Courthouse, Montezuma,
Iowa at 8:30 a.m. to receive written
or oral comments on the expansion
to an existing swine confinement.

Name of Applicant: Prestage
Farms of Iowa, LLC

Location of the operation: Section
15, Chester township

Type of confinement feeding op-
eration structure proposed: One new
2496 head deep pit finisher barn at
an existing facility.

Animal Unit Capacity of the Oper-
ation after Expansion: 1996.8 animal
units, (4992 head swine finishers)

Examination: The application
is on file at the Poweshiek County
Auditor's office and is available for
public inspection during the follow-
ing days: Monday thru Friday from
8:00 a.m. to 4:00 p.m.

Comments: Written comments
may be filed at the County Auditor's
office until the following deadline:
8:30 a.m. April 23, 2012.

If you have questions contact Di-
ana Dawley, Poweshiek County Au-
ditor at 641-623-5443 or email ddaw-
ley@poweshiekcouny.org

RECEIVED

APR 16 2012

**POWESHIEK COUNTY
AUDITOR'S OFFICE**

PI-301

AFFIDAVIT OF PUBLICATION

STATE OF IOWA,
Poweshiek County, ss.

RECEIVED

APR 11 2012

POWESHIEK COUNTY
AUDITOR'S OFFICE

I, Dorothy W. Pinder, having been duly sworn, do depose and say that I am publisher of the GRINNELL HERALD-REGISTER, a semi-weekly newspaper in Grinnell in said county; that I am cognizant of the matters and things therein contained; and that the annexed Notice was published in said paper on the following dates:

April 9, 20 12
_____, 20 ____
_____, 20 ____
_____, 20 ____
_____, 20 ____
Dorothy W. Pinder

Subscribed and sworn to before me this

10 day of April, 20 12
Brandie Sebeniecher

Notary Public

Fee for publication, \$ 39.30

PUBLIC NOTICE

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Name of Applicant: Prestage Farms of Iowa, LLC

Location of the operation: Section 15, Chester township

Type of confinement feeding operation structure proposed: One new 2496 head deep pit finisher barn at an existing facility.

Animal Unit Capacity of the Operation after Expansion: 1996.8 animal units (4992 head swine finishers)

Examination: The application is on file at the Poweshiek County Auditor's office and is available for public inspection during the following days: Monday thru Friday from 8:00 a.m. to 4:00 p.m. Comments: Written comments may be filed at the County Auditor's office until the following deadline: 8:30 a.m. April 23, 2012.

If you have questions contact Diana Dawley, Poweshiek County Auditor at 641-623-5443 or email ddawley@poweshiekcourt.org



Brandie Sebeniecher

Notarial Seal -IOWA

Commission #756903

My Commission Expires

February 10, 2015

PI-301

Diana Dawley

From: Trevor White [tnpwhite@netins.net]
Sent: Monday, May 07, 2012 8:43 AM
To: ddawley@poweshiekcounty.org
Subject: Fw: Prestage Farms Hog Confinements

Sent from my U.S. Cellular® Android-powered device

-----Original message-----

From: "McIlrath, J Harley" <MCILRATH@Grinnell.EDU>
To: 'larry wilson' <poweshieksupervisorwilson@gmail.com>, 'Doug and Mary Shutts' <shutts@iowatelecom.net>, "'tnpwhite@netins.net'"; <tnpwhite@netins.net>
Cc: "Moffett, Alexander" <MOFFETT@Grinnell.EDU>, 'Lamoyne Gaard' <lamoyne@iowatelecom.net>
Sent: Tue, Apr 10, 2012 21:10:48 GMT+00:00
Subject: Prestage Farms Hog Confinements

Dear Larry, Doug, and Trevor,

I see by the Grinnell Herald Register that Prestage Farms and Chad Hafkey want to expand the hog confinement operations on Newburg Road. This has to stop. Our quality of life is being devastated. Easter Sunday, we grilled steaks on the porch and had an Easter Egg hunt for my children. It was ruined by the putrid stench of hog shit. My wife gagged. I was sick to my stomach. These nice spring days, we can't have the windows open. The stench gets in the house. It gets in your nose and it's all you can smell. We'll be setting up the pop up pool soon for the children. Hog shit. Working in the garden. Hog shit. An evening walk. Hog shit. I have driven by on Newburg Road as Hafkeys applied the liquid hog shit to their fields. It was suffocating. My body didn't want to breath, and I was only passing in a car. I understand that right and legal are not the same thing. These hog confinements may or may not be legal. But no person should be allowed to ruin the lives of his neighbors the way Chad Hafkey and Prestage Farms have.

Regards,
Harley McIlrath
729 Newburg Road
641-990-2208

Diana Dawley

From: Trevor White [tnpwhite@netins.net]
Sent: Monday, May 07, 2012 8:44 AM
To: ddawley@poweshiekcounty.org
Subject: Fw: Prestage Farms

Sent from my U.S. Cellular® Android-powered device

-----Original message-----

From: beckyjo@iowatelecom.net
To: tnpwhite@netins.net
Cc: mcilrath@grinnell.edu
Sent: Tue, Apr 24, 2012 14:07:53 GMT+00:00
Subject: Prestage Farms

Trevor,

My name is Becky McIlrath and I am one of the concerned homeowners that was at yesterday's meeting. I plan on touring the permit site tomorrow with the supervisors and the DNR but I had a couple of questions first:

1. Are there any other hog confinements as large as what they are proposing in the county or will we be starting a precedent by allowing these to be built?
2. Is it Prestige Farms or Prestage Farms? I was Googling violations and I see both listed. I want to make sure I'm researching the right business.

Thank you.
Becky McIlrath

Diana Dawley

From: Trevor White [tnpwhite@netins.net]
Sent: Monday, May 07, 2012 8:45 AM
To: ddawley@poweshiekcounty.org
Subject: Fw: Prestage Farms

Sent from my U.S. Cellular® Android-powered device

-----Original message-----

From: Ryan Pudenz <rpudenz@prestagefarms.com>
To: shutts@iowatelecom.net, tnpwhite@netins.net, poweshieksupervisorwilson@gmail.com
Sent: Wed, May 2, 2012 16:04:01 GMT+00:00
Subject: Prestage Farms

Larry, Trevor & Doug,

I would just like to thank the board for a professionally run meeting on Monday.

We strive to be a good neighbor to everyone in Poweshiek county. If there is anything that the board has questions on now or in the future, please feel free to give me a call anytime.

Thanks,

Ryan Pudenz
General Manager
Prestage Farms of Iowa
(515) 817-2420 office
rpudenz@prestagefarms.com



STATE OF IOWA

TERRY E. BRANSTAD, GOVERNOR
KIM REYNOLDS, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
ROGER L. LANDE, DIRECTOR

May 30, 2012

Mr. Brian Ritland

620 Country Club Road
Iowa Falls, IA 50126

RE: Notice of Intent to Issue a Permit for PI-301 Site
Poweshiek County, Facility ID #65294

Dear Mr. Ritland:

The Iowa Department of Natural Resources (IDNR) has made a preliminary determination that your application for a construction permit to build one new swine finishing confinement building with beneath the floor deep concrete pit satisfies the legal requirements for issuance of a permit. A draft construction permit for your facility is enclosed.

Iowa Code Section 459.304 allows the Poweshiek County Board of Supervisors to contest this decision, as explained in the attached letter. Therefore, the IDNR's intent to issue this permit is not a final decision and you are not authorized to begin construction under the terms of the permit at this time. A final permit will be issued on the 15th day following receipt of this notice by Poweshiek County unless the County files a timely request for hearing. If the County files a timely request for hearing, you will be notified, and the permit will not be issued until it is affirmed by the Environmental Protection Commission (EPC).

You may contest the conditions of the proposed permit as provided in 567 Iowa Administrative Code 65.10(8). A copy of this subrule is enclosed.

If you have any questions regarding this draft permit, please contact Paul Petitti, PE at 712/262-4177, or our field office directly.

Sincerely,

A handwritten signature in cursive script that reads "Paul Petitti".

PAUL PETITTI, P.E. ENVIRONMENTAL ENGINEER

FIELD SERVICES AND COMPLIANCE BUREAU

c: Poweshiek County Board of Supervisors. Attn: Diana Dawley, Auditor, P.O. Box 57, Montezuma, IA 50171
Iowa DNR - Field Office #5 Attn: Jeff Theobald

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567 Iowa Administrative Code 65.10(8)

65.10(8) *Applicant's demand for hearing.* The applicant may contest the department's preliminary decision to approve or disapprove an application for permit by filing a written demand for a hearing. The applicant may elect, as part of the written demand for hearing, to have the hearing conducted before the commission pursuant to paragraph 65.10(8) "a" or before an administrative law judge pursuant to paragraph 65.10(8) "b." If no such election is made, the demand for hearing shall be considered to be a request for hearing before the commission. If both the applicant and the county board of supervisors are contesting the department's preliminary decision, the applicant may request that the commission conduct the hearing on a consolidated basis.

a. Applicant demand for hearing before the commission. Due to the need for expedited scheduling, the applicant shall, as soon as possible but not later than 14 days following receipt of the department's notice of preliminary decision, notify the chief of the department's water quality bureau by facsimile transmission to (515)281-8895 that the applicant intends to file a demand for hearing. The demand for hearing shall be sent to Director, Department of Natural Resources, Henry A. Wallace Building, 502 East Ninth Street, Des Moines, Iowa 50319, postmarked no later than 30 days following the applicant's receipt of the department's notice of preliminary decision. If the county board of supervisors has filed a demand for hearing, the times for facsimile notification and filing a demand for hearing are extended an additional 3 business days. It is the responsibility of the applicant to communicate with the department to determine if a county demand for hearing has been filed. The demand for hearing shall include a statement setting forth all of the applicant's reasons why the application for permit should be approved or disapproved, including legal briefs and all supporting documentation, and a further statement indicating whether an oral presentation before the commission is requested.

b. Applicant contested case appeal before an administrative law judge. The applicant may contest the department's preliminary decision to approve or disapprove an application according to the contested case procedures set forth in 561—Chapter 7; however, if the county board of supervisors has demanded a hearing pursuant to subrule 65.10(7), the applicant shall provide facsimile notification to the department within the time frame set forth in 65.10(8) "a" that the applicant intends to contest the department's preliminary decision according to contested case procedures. In that event, the applicant may request that the hearings be consolidated and conducted as a contested case.

STATE OF IOWA
DEPARTMENT OF NATURAL RESOURCES
HENRY A. WALLACE BUILDING
DES MOINES, IOWA 50319

CONSTRUCTION PERMIT

Prestage Farms of Iowa, LLC
1421 S. Bell Ave.
Ames, IA 50010

Permit No: **DRAFT**

File: Agriculture

RE: PI-301 Site

Facility ID No.: 65294

In accordance with the provisions of Sections 459.303 and 459.304 and 567 Iowa Administrative Code (IAC) 65.7(455B), the Director of the Department of Natural Resources does hereby issue a construction permit for:

One new swine confinement finishing barn (101'10" x 203' x 8' deep) to house 2496 swine finishers as part of an expansion to an existing animal feeding operation: The manure control system consists of below the floor deep concrete pit. (8 ft. deep). The site is in the SW¼ of the SE¼ of Section 15, T81N, R16W, Chester Township, Poweshiek County, Iowa. The maximum animal unit capacity (AUC), after completion, of the entire operation, confined at one time, shall not exceed 1996.8 animal units (AU). The total animal capacity of the operation (maximum number of finishing swine to be confined at any one time), after construction, is 4992 head.

This permit is issued subject to the following conditions and requirements:

1. No material change in the construction of this project shall be undertaken unless first authorized by this Department.
2. This construction permit shall expire if the authorized construction is not begun within one year. The construction of this project shall be initiated within one (1) year and completed within four (4) years of the date of issuance of this permit. A new construction permit will be required if construction is not completed within the permitted four years.
3. The design capacity of the manure storage system for the entire swine finishing operation is for a total animal unit capacity of 1996.8 animal units and a maximum animal capacity, to be confined at any one time, of 4992 head of finishing swine. A new construction permit shall be obtained prior to making any additions or alterations to the manure control system, making any process changes that would materially affect the manure control system, expanding the animal capacity, or increasing the volume of manure.

4. Animals shall not be placed in the new confinement building and manure shall not be stored in the new concrete pit until all of the following are satisfied:
 - a) **Construction is completed;**
 - b) **You submit a certification (copy enclosed for your use) that the below the floor concrete manure storage pit was:**
 - **Constructed in accordance with the current concrete design standards of 567 IAC-65.15(14).**
 - **Constructed in accordance with the drainage tile removal standards of 567 IAC - 65.15(1) including a report of the findings and actions taken to comply with this subrule.**
 - **Constructed in accordance with the minimum required separation distances as outlined in 567 IAC Table 6;**
 - c) **You must notify this Department's Field Office in Des Moines, Iowa, at 1-515-725-0268 prior to the initial concrete pour for your manure storage pit floor;**
 - d) **A drainage tile system has been installed around the base of the manure storage structure (deep pit) or a licensed professional engineer has submitted his/her determination of the average annual high water table at the site which shows that the groundwater table is not above the bottom of the manure storage structure (deep pit) as required in the 567 IAC 65.15(7)"b".**
 - e) **A device to allow monitoring of the water in the drainage tile lines installed around the structure to lower the groundwater table and a device to allow shutoff of the drainage tile lines shall be installed if the drainage tile lines do not have a surface outlet accessible on the property where the formed manure storage structure is located; and**
 - f) **You receive written approval from this Department.**
5. If karst terrain (limestone, dolomite, or other soluble rock) is found during excavation of the permitted formed manure storage structure(s), the upgraded concrete standards set forth in 567 IAC 65.15(14)"c", must be followed. Construction of an unformed manure storage structure in karst terrain, as defined in 567 IAC 65.1(455B), is prohibited. The Department must first authorize any design changes to the project, as required in condition 1 of this permit.
6. The Master Matrix evaluation of your application by Poweshiek County received on May 8, 2012, includes scores for criteria 12, 15, 17, 19 and 25. The Master Matrix requires that a (design, operation and maintenance) plan for these criteria be included in the application and that compliance with said plan be a condition of the Permit Briefly stated:
 - a) **You shall plant, maintain and replace trees and shrubs in accordance with your County approved design, operation and maintenance plan. (criterion # 15)**
 - b) **You shall build, maintain, and operate the concrete manure storage pit according to your County-approved design, operation, and maintenance plan. (criteria # 12, and 17)**
 - c) **You shall build, maintain, and operate the truck turnaround according to your County-approved design, operation, and maintenance plan. (criterion # 19)**
 - d) **You shall build, maintain, and operate the manure volume reduction (feeding and watering) systems according to your County approved design, operation, and maintenance plan. (criterion #25)**

7. The Master Matrix evaluation of your application by Poweshiek County received on May 8, 2012, includes scores for criteria 26 "e", 40 and 41. The Master Matrix requires that the limitations or actions you accepted in choosing to receive scores for these criteria must be included as conditions of the Permit. Briefly stated:
 - a) **The manure produced at this confinement operation shall be injected or incorporated on the same date it is land applied. (criterion 26 "e")**
 - b) **You shall follow the County approved emergency action plan in the event of an emergency and keep a copy of this plan on site. (criterion #40)**
 - c) **The County approved closure plan shall be kept on site and followed in the event the facility is abandoned. (criterion #41)**
8. Prior to entering the winter season, a sufficient volume of manure shall be removed from the manure storage structures to provide adequate volume for storage of manure produced in the livestock production facilities during the winter season.
9. All the manure removed from the manure storage facilities shall be disposed of by land application in accordance with your approved manure management plan. You must also keep your manure management plan current and maintain records sufficient to demonstrate compliance with the plan. A copy of the approved Plan shall be kept within 30 miles of the site in accordance with 567 IAC 65.17(12).
10. Water usage in the confinement facilities that result in dilution of manure entering the manure storage structures shall be minimized.
11. Dilution water shall not be added to the manure storage structures except during manure emptying operations.
12. Human sanitary wastes (including showers and laundry facilities) shall not be discharged to the manure storage structures.
13. A water use permit is required for the withdrawal or diversion of more than 25,000 gallons of water per day. Water purchased from municipal or rural water systems is excluded. Any future wells shall be located respective of regulated separation distances and installed according to county permit requirements. For more information or to verify permit requirements, contact Jim Neleigh at 1-515-725-0276.
14. No construction activities shall be initiated unless a NPDES General Permit No 2, for "Storm water discharge associated with construction activities" is obtained from this Department if the site disturbance from all construction activities **equals or exceeds one (1) acre**. For more information or to verify permit requirements contact Joe Griffin at 515-281-7017.
15. The issuance of this permit in no way relieves you the applicant of the responsibility for complying with all local, state and federal laws, ordinances, regulations and other requirements applying to the construction or operation of this facility.

Pursuant to Iowa Code Section 459.304, you have the right to appeal any condition of this permit as provided in 567 IAC 65.10(8).

Please contact Paul Petitti, PE at 712/262-4177 with any questions.

For the Department of Natural Resources:

ROGER L. LANDE, DIRECTOR

By: **DRAFT**
 ENVIRONMENTAL SERVICES DIVISION

Date: **DRAFT**

c: Poweshiek County Board of Supervisors. Attn: Diana Dawley, Auditor, P.O. Box 57, Montezuma, IA 50171
Iowa DNR - Field Office #5 Attn: Jeff Theobald



STATE OF IOWA

TERRY E. BRANSTAD, GOVERNOR
KIM REYNOLDS, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
ROGER L. LANDE, DIRECTOR

May 30, 2012

Poweshiek County Board of Supervisors
Attn: Diana Dawley, Auditor
P.O. Box 57
Montezuma, IA 50171

RE: Notice of Intent to Issue a Permit
Prestage Farms of Iowa PI-301 Site, Facility ID #65294
Poweshiek County

Dear Ms. Dawley:

This department has made a preliminary determination that Prestage Farms has met the legal criteria to be issued a construction permit for one new swine finishing confinement building located in the SW ¼ of the SE ¼ of Section 15, T81N, R16W, Chester Township, Poweshiek County, Iowa. A copy of the draft permit is enclosed for your information. The permit would authorize Prestage Farms to construct the confinement feeding operation structure(s) as described in the draft permit.

Pursuant to Iowa Code Section 459.304 and subrule 567 Iowa Administrative Code (IAC) 65.10(7) the Poweshiek County Board of Supervisors may contest the draft permit by filing a timely demand for hearing before the Environmental Protection Commission. The board shall, as soon as possible but not later than fourteen (14) days following receipt of this letter, notify the Chief of the Water Quality Bureau by facsimile transmission at (515) 281-8895 that it intends to file a demand for hearing. The demand for a hearing must also be mailed to the Director, Department of Natural Resources, Henry A. Wallace Building, 502 E. Ninth Street, Des Moines, Iowa, 50319. The mailed demand for hearing shall be postmarked within fourteen (14) days following receipt of this letter and accompanied by a statement that provides all the reasons why the permit should not be issued according to the legal requirements of Iowa Code Section 459 "Animal Agriculture Compliance Act" and 567 IAC chapter 65; legal briefs and any other documents to be considered by the commission or a statement indicating that no other documents will be submitted for the commission's consideration; and a statement indicating whether oral argument before the commission is desired. The matter would be heard by the commission at a time and location to be determined by the commission. The commission must render a decision within thirty-five (35) days from the date that the county board of supervisors files a demand for a hearing.

If you have any questions regarding this permit, please contact Paul Petitti, PE at (712) 262-4177.

Sincerely,

PAUL PETITTI, P.E., ENVIRONMENTAL ENGINEER
FIELD SERVICES AND COMPLIANCE BUREAU

c: Brian Ritland, 620 Country Club Road, Iowa Falls, IA 50126
Iowa DNR - Field Office #5 Attn: Jeff Theobald

Petitti, Paul [DNR]

From: Diana Dawley [ddawley@poweshiekcounty.org]
Sent: Wednesday, May 30, 2012 3:04 PM
To: Petitti, Paul [DNR]
Subject: RE: Prestage PI-301 site draft permit

Paul,
I received your email regarding Prestage Farms PI-301.
Diana Dawley

From: Petitti, Paul [DNR] [<mailto:Paul.Petitti@dnr.iowa.gov>]
Sent: Wednesday, May 30, 2012 9:39 AM
To: Poweshiek Co Auditor - Diana Dawley
Subject: Prestage PI-301 site draft permit

Hi Diana, attached is the draft permit for Prestage Farms PI-301 site. Hard copy is in the mail. In the past we would send the draft permit via certified mail. In an effort to save time and money we are sending it via email. Could you please respond to this email that you did receive the draft permit and I will use that date as the official receipt date.

thanks

Diana, I issued the draft permit because the County originally scored the matrix passing. The law allows the County 30 days to review so requesting to rescore would need an extension by the applicant to allow that.

Paul Petitti, P.E.
Environmental Engineer
Field Office No.3, Spencer
1-712-262-4177